LOREX®
VIEW YOUR WORLD®

DIGITAL VIDEO SURVEILLANCE RECORDER

Instruction Manual

English Version 2.0

THE ECONOMICAL SOLUTION TO PROTECT YOUR HOME OR BUSINESS

VANTAGE
LH140 ECO3 SERIES

www.lorextechnology.com

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Thank you for purchasing the ECO3 Series Digital Video Surveillance Recorder.

This manual refers to the following models:

- LH148 (8-channel)
- LH146 (16-channel)

For the latest online manual, downloads and product updates, and to learn about our complete line of accessory products, please visit our website at:

www.lorextechnology.com

CAUTION

RISK OF ELECTRIC SHOCK
DO NOT OPEN

CAUTION: TO REDUCE THE RICK OF ELECTRIC SHOCK DO NOT REMOVE COVER. NO USER SERVICABLE PARTS INSIDE.

REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the products ' enclosure that may be of sufficient magnitude to constitute a risk of electric shock.

The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

WARNING: TO PREVENT FIRE OR SHOCK HAZARD, DO NOT EXPOSE THIS UNIT TO RAIN OR MOISTURE.

CAUTION: TO PREVENT ELECTRIC SHOCK, MATCH WIDE BLADE OF THE PLUG TO THE WIDE SLOT AND FULLY INSERT.

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NEED HELP?

CONTACT US FIRST

DO NOT RETURN THIS PRODUCT TO THE STORE

Please make sure to register your product at www.lorextechnology.com to receive product updates and technical support.

2 Easy Ways to Contact Us

Online:

Product Support is available 24/7 including product information, user manuals, quick start up guides and FAQ's at **www.lorextechnology.com/support**

For all other matters, visit **www.lorextechnology.com**

By Phone:

North America:

Customer Service (for warranty matters): **1-888-425-6739** (1-888-42-LOREX)

Tech Support (for technical/installation issues): **1-877-755-6739** (1-877-75-LOREX)

Mexico: **001-800-681-9263, 001-800-514-6739**

International: **+800-425-6739-0** (Example: From the UK, dial 00 instead of +)

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VEA SU MUNDO™

LIVE VANTAGE

¿NECESITA AYUDA?

COMUNÍQUESE PRIMERO CON NOSOTROS

NO DEVUELVA ESTE PRODUCTO A LA TIENDA

Por favor, registre su producto en www.lorextechnology.com para recibir actualizaciones del producto y asistencia técnica.

Hay 2 maneras fáciles de comunicarse con nosotros:

En línea:

Apoyo al cliente está disponible 24/7, incluyendo información del producto, manuales para el usuario, guías de inicio rápido y preguntas más frecuentes en:
www.lorextechnology.com/support

Para todo lo demás, visite
www.lorextechnology.com

Por teléfono:

Norte América:
Atención al cliente (para asuntos de la garantía):
1-888-425-6739 (1-888-42-LOREX)
Asistencia técnica (para asuntos técnicos o de instalación):
1-877-755-6739 (1-877-75-LOREX)

Mexico: **001-800-681-9263, 001-800-514-6739**

Internacional: **+800-425-6739-0**
(Ejemplo: Desde el Reino Unido, marque el 00 en lugar del +)

BESOIN D'ASSISTANCE?

COMMUNIQUEZ D'ABORD AVEC NOUS

NE RETOURNEZ PAS CE PRODUIT AU MAGASIN

Veuillez enregistrer votre produit sur le site www.lorextechnology.com afin de recevoir des mises à jour et le soutien technique pour votre produit.

2 façons simples de communiquer avec nous :

En ligne :

À votre disposition 24/7, le soutien pour les produits comprend les renseignements sur les produits, guides d'utilisation, guides de départ rapide et FAQ :
www.lorextechnology.com/support

Pour toutes les autres questions,
visitez **www.lorextechnology.com**

Par téléphone :

En Amérique du Nord :
Service à la clientèle (pour tout ce qui concerne la garantie) :
1-888-425-6739 (1-888-42-LOREX)
Soutien technique (pour les questions d'ordre technique ou relatives à l'installation) : **1-877-755-6739** (1-877-75-LOREX)

Mexique : **001-800-681-9263, 001-800-514-6739**

International : **+800-425-6739-0**
(par exemple : à partir du Royaume-Uni, composez le 00 au lieu de +)

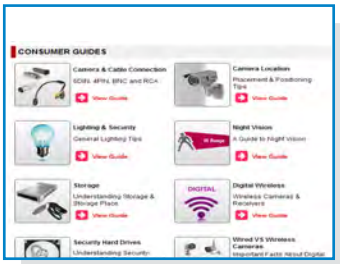
BEFORE YOU START

Please make sure to register your product at www.lorextechnology.com to receive product updates and technical support

THIS PRODUCT MAY REQUIRE PROFESSIONAL INSTALLATION

LOREX IS COMMITTED TO FULFILLING YOUR SECURITY NEEDS

- We have developed user friendly products and documentation. Please read the Quick Start Guide and User Manual before you install this product.



- Consumer Guides and Video Tutorials are available on our web site at **www.lorextechnology.com/support**

- If you require further installation assistance, please visit **www.lorextechnology.com/installation** or contact a professional installer.

- Please note that once the components of this product have been unsealed, you cannot return this product directly to the store without the original packaging.

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AVANT DE COMMENCER

Veuillez enregistrer votre produit sur le site www.lorextechnology.com afin de recevoir des mises à jour et le soutien technique pour votre produit.

CE PRODUIT PEUT NÉCESSITER UNE INSTALLATION PROFESSIONNELLE

LOREX S'ENGAGE À RÉPONDRE À VOS BESOINS EN MATIÈRE DE SÉCURITÉ

- Nous avons conçu et développé une documentation et des produits extrêmement conviviaux. Veuillez lire le Guide de départ rapide et le Guide d'utilisation avant d'installer ce produit.
- Des guides pour consommateurs et des tutoriels vidéo vous sont offerts sur notre site Web : www.lorextechnology.com/support
- Si vous avez besoin de plus d'assistance pour l'installation de ce produit, veuillez visiter le site www.lorextechnology/installation ou communiquez avec un installateur professionnel.
- Veuillez prendre note que lorsque vous avez déballé les pièces et composantes de ce produit, vous ne pouvez pas retourner celui-ci directement au magasin sans son emballage original.

ANTES DE EMPEZAR

Cerciórese de por favor colocar su producto en www.lorextechnology.com para recibir actualizaciones y la información del producto y soporte técnico.

ESTE PRODUCTO PUEDE EXIGIR UNA INSTALACIÓN PROFESIONAL

LOREX SE COMPROMETE A SATISFACER SUS NECESIDADES EN SEGURIDAD

- Favor de leer la guía de instalación rápida y la guía del usuario antes de instalar este product.
- Puede conseguir las guías del consumidor y los cursos en enseñanza video sobre el Internet visitando www.lorextechnology.com/support
- Si necesita ayuda para la instalación, visite www.lorextechnology.com/installation o contacte un especialista en instalaciones.
- Favor de notar que una vez que los componentes de este producto han sido removidos del embalaje, no podrá devolver este producto directamente a la tienda.

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VANTAGE

SEP 6 2012 - R8

Important Safeguards

In addition to the careful attention devoted to quality standards in the manufacture process of your product, safety is a major factor in the design of every instrument. However, safety is your responsibility too. This sheet lists important information that will help to ensure your enjoyment and proper use of the product and accessory equipment. Please read them carefully before operating and using your product.

General Precautions

1. All warnings and instructions in this manual should be followed.
2. Remove the plug from the outlet before cleaning. Do not use liquid aerosol detergents. Use a water-dampened cloth for cleaning.
3. Do not use this product in humid or wet places.
4. Keep enough space around the product for ventilation. Slots and openings in the storage cabinet should not be blocked.
5. It is highly recommended to connect the product to a surge protector to protect from damage caused by electrical surges. It is also recommended to connect the product to an uninterruptible power supply (UPS), which has an internal battery that will keep the product running in the event of a power outage.

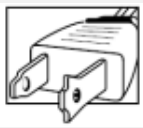
Installation

1. **Read and Follow Instructions** - All the safety and operating instructions should be read before the product is operated. Follow all operating instructions.

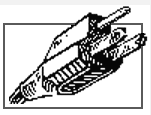
2. **Retain Instructions** - The safety and operating instructions should be retained for future reference.

3. **Heed Warnings** - Comply with all warnings on the product and in the operating instructions.

4. **Polarization** - Do not defeat the safety purpose of the polarized or grounding-type plug.

   A polarized plug has two blades with one wider than the other.

   A grounding type plug has two blades and a third grounding prong.

   The wide blade or the third prong are provided for your safety.

   If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.

5. **Power Sources** - This product should be operated only from the type of power source indicated on the marking label. If you are not sure of the type of power supplied to your location, consult your video dealer or local power company. For products intended to operate from battery power, or other sources, refer to the operating instructions.

6. **Overloading** - Do not overload wall outlets or extension cords as this can result in the risk of fire or electric shock. Overloaded AC outlets, extension cords, frayed power cords, damaged or cracked wire insulation, and broken plugs are dangerous. They may result in a shock or fire hazard. Periodically examine the cord, and if its appearance indicates damage or deteriorated insulation, have it replaced by your service technician.

7. **Power-Cord Protection** - Power supply cords should be routed so that they are not likely to be walked on or pinched by items placed upon or against them. Pay particular attention to cords at plugs, convenience receptacles, and the point where they exit from the product.

8. **Surge Protectors** - It is highly recommended that the product be connected to a surge protector. Doing so will protect the product from damage caused by power surges. Surge protectors should bear the UL listing mark or CSA certification mark.

9. **Uninterruptible Power Supplies (UPS)** - Because this product is designed for continuous, 24/7 operation, it is recommended that you connect the product to an uninterruptible power supply. An uninterruptible power supply has an internal battery that will keep the product running in the event of a power outage. Uninterruptible power supplies should bear the UL listing mark or CSA certification mark.

   Caution: Maintain electrical safety. Power line operated equipment or accessories connected to this product should bear the UL listing mark or CSA certification mark on the accessory itself and should not be modified so as to defeat the safety features. This will help avoid any potential hazard from electrical shock or fire. If in doubt, contact qualified service personnel.

Installation (Continued)

10. **Ventilation** - Slots and openings in the case are provided for ventilation to ensure reliable operation of the product and to protect it from overheating. These openings must not be blocked or covered. The openings should never be blocked by placing the product on a bed, sofa, rug, or other similar surface. This product should never be placed near or over a radiator or heat register. This product should not be placed in a built-in installation such as a bookcase or rack unless proper ventilation is provided and the product manufacturer's instructions have been followed.

11. **Attachments** - Do not use attachments unless recommended by the product manufacturer as they may cause a hazard.

12. **Water and Moisture** - Do not use this product near water — for example, near a bath tub, wash bowl, kitchen sink or laundry tub, in a wet basement, near a swimming pool and the like.

13. **Heat** - The product should be situated away from heat sources such as radiators, heat registers, stoves, or other products (including amplifiers) that produce heat.

14. **Accessories** - Do not place this product on an unstable cart, stand, tripod, or table. The product may fall, causing serious damage to the product. Use this product only with a cart, stand, tripod, bracket, or table recommended by the manufacturer or sold with the product. Any mounting of the product should follow the manufacturer's instructions and use a mounting accessory recommended by the manufacturer.

15. **Camera Extension Cables** – Check the rating of your extension cable(s) to verify compliance with your local authority regulations prior to installation.

16. **Mounting** - The cameras provided with this system should be mounted only as instructed in this guide or the instructions that came with your cameras, using the provided mounting brackets.

17. **Camera Installation**- Cameras are not intended for submersion in water. Not all cameras can be installed outdoors. Check your camera environmental rating to confirm if they can be installed outdoors. When installing cameras outdoors, installation in a sheltered area is required.

Service

1. **Servicing** - Do not attempt to service this product yourself, as opening or removing covers may expose you to dangerous voltage or other hazards. Refer all servicing to qualified service personnel.

2. **Conditions Requiring Service** - Unplug this product from the wall outlet and refer servicing to qualified service personnel under the following conditions:

   A. When the power supply cord or plug is damaged.

   B. If liquid has been spilled or objects have fallen into the product.

   C. If the product has been exposed to rain or water.

   D. If the product has been dropped or the cabinet has been damaged.

   E. If the product does not operate normally by following the operating instructions. Adjust only those controls that are covered by the operating instructions. Improper adjustment of other controls may result in damage and will often require extensive work by a qualified technician to restore the product to its normal operation.

   F. When the product exhibits a distinct change in performance. This indicates a need for service.

7. **Replacement Parts** - When replacement parts are required, have the service technician verify that the replacements used have the same safety characteristics as the original parts. Use of replacements specified by the product manufacturer can prevent fire, electric shock, or other hazards.

8. **Safety Check** - Upon completion of any service or repairs to this product, ask the service technician to perform safety checks recommended by the manufacturer to determine that the product is in safe operating condition.

Use

1. **Cleaning** - Unplug the product from the wall outlet before cleaning. Do not use liquid cleaners or aerosol cleaners. Use a damp cloth for cleaning.

2. **Product and Cart Combination** - When product is installed on a cart, product and cart combination should be moved with care. Quick stops, excessive force, and uneven surfaces may cause the product and cart combination to overturn.

3. **Object and Liquid Entry** - Never push objects of any kind into this product through openings as they may touch dangerous voltage points or "short-out" parts that could result in a fire or electric shock. Never spill liquid of any kind on the product.

4. **Lightning** - For added protection of this product during a lightning storm, or when it is left unattended and unused for long periods of time, unplug it from the wall outlet and disconnect the antenna or cable system. This will prevent damage to the product due to lightning and power line surges.

NOTICES

FCC/IC Notice:

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction, may cause harmful interference to radio communications.

However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception (which can be determined by turning the equipment on and off), the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna
- Increase the separation between the equipment and receiver
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected
- Consult the dealer or an experienced radio or television technician for assistance

Modification:

Any changes or modifications not expressly approved by the grantee of this device could void the user's authority to operate the device.

Toute modification non approuvée explicitement par le fournisseur de licence de l'appareil peut entraîner l'annulation du droit de l'utilsateur à utiliser l'appareil.

RoHS:

This product is fully compliant with the European Union Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment ("RoHS") Directive (2002/95/EC). The RoHS directive prohibits the sale of electronic equipment containing certain hazardous substances such as lead, cadmium, mercury, and hexavalent chromium, PBB, and PBDE in the European Union.

This product has been certified and found to comply with the limits regulated by FCC, EMC, and LVD. Therefore, it is designated to provide reasonable protection against interference and will not cause interference with other appliance usage.

However, it is imperative that the user follows the guidelines in this manual to avoid improper usage, which may result in damage to the product, electrical shock and fire hazard injury.

In order to improve the features, functions, and quality of this product, the specifications are subject to change without notice from time to time.

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Product Information

Specification Sheets

User Manuals

Software Upgrades

Quick Start Guides

Firmware Upgrades

Features

Digital Video Recorder Features

- 960H (960x480) recording resolution, D1/2CIF/CIF supported
- H.264 video compression[1].
- Real time recording 30fps per channel: 8ch @ 960H, 16ch @ (480x240)
- Pentaplex operation - View, Record, Playback, Back Up & Remotely Control the system simultaneously
- 24/7 100% Duty cycle hard drive pre-installed
- PTZ cameras supported (RS485), controllable remotely via App
- Accurate Time Stamps with NTP & Daylight Savings Time

Connectivity Features[2]

- Instant Mobile Viewing on compatible smart phones & tablets[3]
- Exclusive LOREX Easy Connect Internet Set-up Wizard
- PC and Mac (via Safari) Compatible
- Free LOREX DDNS (Dynamic Domain Name Service) for advanced remote connectivity at all times
- Instant email alerts with snap shot attachments and web link

1. Recording time may vary based on recording resolution & quality, lighting conditions, and movement in the scene.
2. Requires a high speed Internet connection and a router (not included).
3. Smart phone & tablet Compatibility: iPad™, iPhone™, Android (version 1.5 & above), Windows Mobile (6.0, 6.5). Mobile phone data plan is required (not included). For the latest compatibility list check www.lorextechnology.com as new models become available in the market.

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TABLE OF CONTENTS

Getting Started 1
Front Panel 2
8-Channel 2
16-Channel 3
Rear Panel 5
8-Channel 5
16-Channel 6
Basic Setup 7
Step 1: Connect the BNC Cameras 7
Step 2: Connect the Mouse 7
Step 3: Connect the Ethernet Cable 7
Step 4: Connect the Monitor 8
Step 5: Connect the Power Adapter and Power on the DVR 8
Step 6: Verify Camera Image 8
Step 7: Set the Time 8
Default System Password & Port Numbers 9
Quick Access to System Information 9
Connecting Cameras 10
Installation Tips 10
Installing Cameras 10
Connecting BNC Cameras to your DVR 11
Connecting and Removing BNC Cables 11
Mouse Control 12
Remote Control 13
8-Channel Remote Control 13
16-Channel Remote Control 14
Using the On-Screen Display 15
Using the Menu Bar 16
Menu Bar Icons 16
Using the Virtual Keyboard and Mini-Keyboard 17
Using the Zoom Mode 18
Using Picture in Picture (PIP) Mode 19
Setting the Date and Time 20
Configuring Daylight Savings Time (DST) 21
Using a NTP Server to set your System Time 22

Recording 23
Event Recording 23
Recording Audio 23
Playback and Backup 24
Playing Back Recorded Video 24
Using Playback Controls 26
Finding Events in the Playback Bar 26
Controlling the Time Range of the Playback Bar 27
Using Zoom in Playback Mode 27
Using Video Clip Backup 28
Backing Up Video 29
Viewing Backed Up Video 30
Converting Backed Up Video to AVI Files 30
Managing Passwords 32
Enabling and Changing Passwords 32
Adding Users 33
Using the Main Menu 35
Display 36
Configuring Custom Channel Names 36
Changing the Position of the Channel Name 36
Adjusting Camera Color Settings 36
Enabling Covert Recording 36
Configuring the Time and Recording Time Display 37
Configuring Sequence Time 37
Changing the Video-out Resolution 37
Restoring the System's Resolution if you see a Blank Screen 37
Adjusting Menu Transparency 38
Adjusting the Video Margin 38
Adding Privacy Zones 38
Creating a Custom Split-screen Display 39
Record 40
Configuring Pre-recording Settings 40
Configuring Backup File Duration (Pack Duration) 40
Configuring the Recording Schedule (Continuous, Motion, Alarm) 41
Enabling Audio Recording 41
Configuring Recording Quality, Resolution, and Video Frame Rate 41
Search 43
Searching for Video on the System 43
Backing up Video Files 43
Using the Event Search 44
Using the Log Search 45
Network 45
Configuring Network Type: DHCP & Static IP 45
Enabling Auto Port Forwarding 46
Changing the DVR's Client and HTTP Port 46

Adjusting Remote Connectivity Streaming Rates 46
Setting up Email Notification 47
Changing the Mobile Connectivity Port, User Name, and Password 48
Configuring DDNS settings 48
Alarm 49
Configuring Motion Detection 49
Configuring Alarm Settings 49
Device 50
Configuring Hard Drive settings 50
Formatting USB Flash Drives 51
System 51
Changing Date Format 51
Changing Time Format 51
Changing the System Language 51
Changing Video Output - NTSC & PAL 52
Configuring Menu Time Out and Auto Logout 52
Adding Users & Changing the Admin Password 52
Viewing System Information 52
Advanced 52
Configuring the "Auto Reboot" feature 52
Upgrading the System Firmware 53
Restoring to Factory Default Settings 53
Restarting or Shutting Down the DVR 54
Configuring System Warnings 54
Saving Your System Configuration to a USB Flash Drive 54
Loading a System Configuration from a USB Flash Drive 55
Setting up your DVR for Remote Connectivity. 56
System Requirements 56
Accessing your DVR within a local network (LAN) 57
Step 1 of 3: Connect your DVR to the Local Area Network 57
Step 2 of 3: Obtain the DVR's Local IP Address and HTTP Port 57
Step 3 of 3: Enter the DVR's Local IP Address into the Browser 58
To connect using the DVR's local IP address on a PC: 58
To connect to the DVR's local IP address on a Mac: 59
Accessing your DVR Remotely over the Internet 60
Step 1 of 4: Port Forwarding 60
Step 2 of 4: Create a DDNS Account 61
Step 3 of 4: Enable DDNS on the DVR 65
Step 4 of 4: Enter the DDNS Address into the Browser 66
Lorex Client 11: Client Software for PC. 67
Connecting to your DVR using Lorex Client 11 67
Remote Viewing Interface 68
Logging into the System 69
Changing Viewing Modes 70
Taking Screen Shots 70
Recording Video 71

Showing / Hiding Channels 71
Adjusting Sub-menu Options 72
Changing the Save Directory of Screenshots or Recorded Video 72
Changing the Format of Recorded Video (PC Only) 73
Configuring PTZ Settings 74
Video Playback 75
Video Playback Controls 76
Configuring Display Settings 76
Configuring Privacy Zone Settings 77
Configuring Recording Parameters 78
Configuring the Recording Schedule 78
Configuring System Recording Quality 79
Configuring Basic Network Settings 80
Configuring the System Substream 80
Configuring Email Notification Settings 81
Changing the Mobile User Name and Password 82
Configuring DDNS Settings 83
Configuring Motion Detection Settings 83
Configuring your System to "Beep" During Motion 84
Configuring Alarm Notifications 85
Configuring Hard Drive Recording Mode 86
Configuring PTZ Parameters 86
Configuring the System Time and Date 87
Changing the System's Menu Time Out 87
Configuring System User Accounts 88
Viewing System Information 89
Upgrading System Firmware 89
Restoring Default Settings 90
Configuring Event Settings 90
Configuring Auto-Reboot 91

Lorex Player 11: Playing Backed up Video on PC 92

Installing Lorex Player 11 92
Running Lorex Player 11 92
Lorex Player 11 Interface Overview 93
About the Advanced Config menu 93

Lorex Player for Mac: Viewing Backed up Video on Mac 94

Lorex Player Mac interface 94
Loading Individual Video Files 95
Loading Multiple Video Files 95

Mobile Apps: Accessing your DVR Using a Mobile Device 96

Compatible Devices and Platforms 96
Before you Begin 96

iPhone / iPad 97
Step 1 of 3: Downloading the App 97
Step 2 of 3: Configuring Lorex Mobile Eco 97
Step 3 of 3: Connecting to your DVR 98
Deleting Accounts 99
Taking Snapshots 99
Changing Channels 100
Interface Overview 100
Android 101
Step 1 of 2: Downloading the App 101
Step 2 of 2: Configuring and Connecting to Lorex Mobile Eco 101
Windows Mobile 103
Step 1 of 2: Downloading the App 103
Step 2 of 2: Configuring and Connecting to Lorex Mobile Eco 103
Appendix A: System Specifications 105
Appendix B: Connecting a PTZ Camera 106
Configuring PTZ Settings 106
Using the PTZ Menu (Local DVR) 107
PTZ Presets and PTZ Cruise 108
Setting PTZ Presets 108
Selecting PTZ Presets 108
Deleting PTZ Presets 108
Starting / Stopping PTZ Cruise 108
Appendix C: Connecting Additional External Monitors 109
Customizing the Channel Arrangement on the External Monitor 109
Appendix D: Recording Audio 111
Appendix E: Replacing the Hard Drive 112
Removing the Hard Drive 112
8-Channel 112
16-Channel 113
Installing the Hard Drive 115
8-Channel 115
16-Channel 116
Formatting the Hard Drive 118
Troubleshooting 119
Troubleshooting Remote Connections 121

Getting Started

The system comes with the following components:

DVR (DIGITAL VIDEO RECORDER)

12V DC POWER SUPPLY
(may not be exactly as shown)

REMOTE CONTROL
(may not be exactly as shown)

USB MOUSE

ETHERNET CABLE

HDMI CABLE

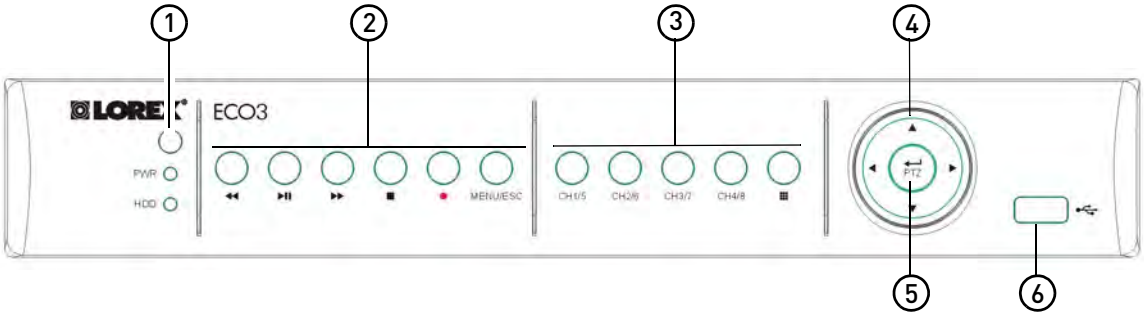
QUICKSTART GUIDES
DOCUMENTATION CD

HARD DRIVE SIZE, NUMBER OF CHANNELS, AND CAMERA CONFIGURATION MAY VARY BY MODEL. PLEASE REFER TO YOUR PACKAGE FOR SPECIFIC DETAILS.

CHECK YOUR PACKAGE TO CONFIRM THAT YOU HAVE RECEIVED THE COMPLETE SYSTEM, INCLUDING ALL COMPONENTS SHOWN ABOVE.

Front Panel

8-Channel



1 **IR Sensor**: IR receiver for the remote control.
LED Indicators:
- **PWR**: Power LED.
- **HDD**: Hard disk activity LED.

2 **Menu & Playback Controls**:
- ◀◀ : In Playback Mode, press to rewind. Press repeatedly to increase rewind speed.
- ▶ II : In Playback Mode, press to play / pause video.
  - In Live Viewing Mode, press to open Search Menu to select playback time.
- ▶▶ : In Playback Mode, press to fast forward. Press repeatedly to increase fast forward speed.
- ■ : In Playback Mode, press to stop video playback.
  - In Live Viewing Mode, press to stop DVR recording. Password required; does not override scheduled recording.
  - Press and hold for 15 seconds to reset the DVR to the default resolution. DVR will reboot.
- ● : Press to stop / resume recording. When the channel displays a red box with the letter "C", the channel is recording.
- **Menu / Esc**: Opens the system menu. In menus, press to go back / exit menus.

3 **Channel Controls for full screen view**:
- **CH1/5**: Press to switch between channel 1 or channel 5 in full screen.
- **CH2/6**: Press to switch between channel 2 or channel 6 in full screen.
- **CH3/7**: Press to switch between channel 3 or channel 7 in full screen.
- **CH4/8**: Press to switch between channel 4 or channel 8 in full screen.
- : In Live Viewing Mode, press repeatedly to switch between Split-screen Viewing modes.

4 **Navigation Buttons**:

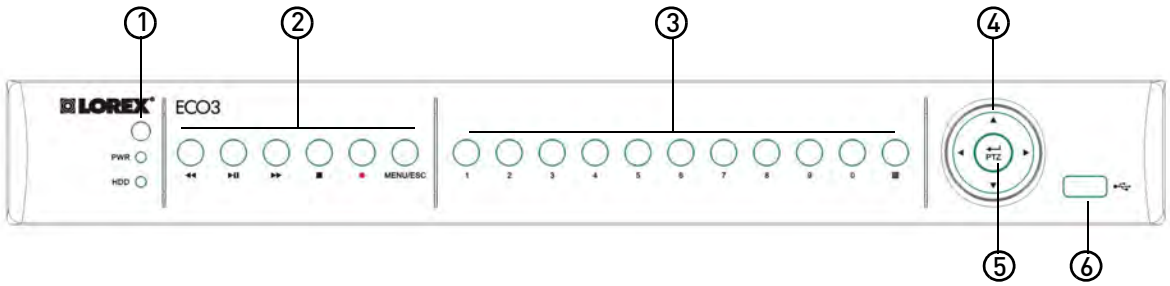
- ▲: Press to move cursor up.
- ▼: Press to move cursor down.
- ◀: Press to move cursor left.
- ▶: Press to move cursor right.

5 **PTZ/ ↵** :

- Within system menus: Press to confirm a selection.
- In Viewing mode, press to open the System Information window.
- In Viewing mode, press and hold for 6 seconds to open the PTZ menu.

6 **USB Port**: Connect a USB mouse (included) or USB flash drive (not included) for data backup or firmware updates.

16-Channel



1 **IR Sensor**: IR receiver for the remote control.
LED Indicators:

- **PWR**: Power LED.
- **HDD**: Hard disk activity LED.

2 **Menu & Playback Controls**:

- ◀◀ : In Playback Mode, press to rewind. Press repeatedly to increase rewind speed.
- ▶ II : In Playback Mode, press to play / pause video.
  - In Viewing mode, press to open Search Menu to select playback time.
- ▶▶: In Playback Mode, press to fast forward. Press repeatedly to increase fast forward speed.
- ■ : In Playback Mode, press to stop video playback.
  - In Live Viewing Mode, press to stop DVR recording. Password required; does not override scheduled recording.
  - Press and hold for 15 seconds to reset the DVR to the default resolution. DVR will reboot.
- ● : Press to stop / resume recording. When the channel displays a red box with the letter "C", the channel is recording.
- **Menu / Esc**: Opens the system menu. In menus, press to go back / exit menus.

3 **Channel Controls**:

- **Ch1 ~ Ch9**: Press to view channel in Full-screen View.
- To access channels 10 and greater: Press **0** for channel 10 or 1+0 for channel 10, 1+1 for channel 11, 1+2 for channel 12, etc.
- : In Live Viewing Mode, press repeatedly to switch between Split-screen Viewing modes.

4 **Navigation Buttons**:

- ▲: Press to move cursor up.
- ▼: Press to move cursor down.
- ◀: Press to move cursor left.
- ▶: Press to move cursor right.

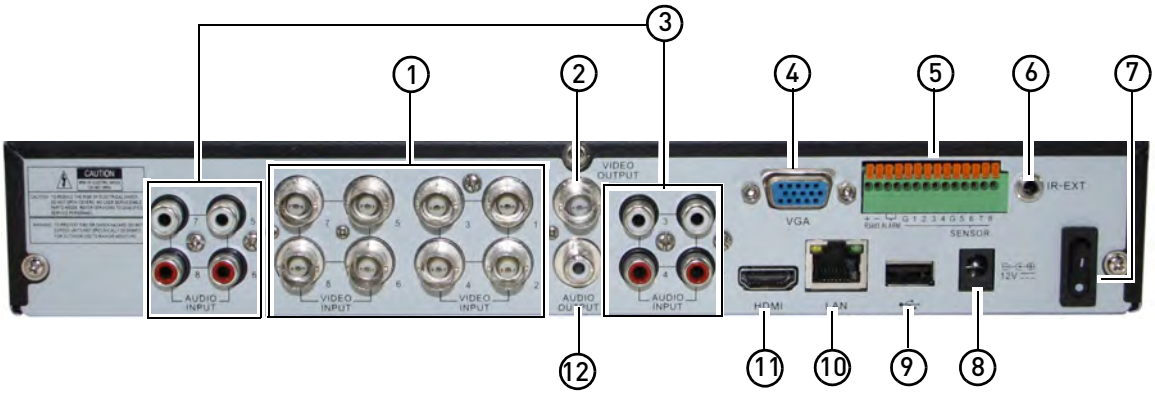
5 **PTZ/** ↵ :

- Within system menus, press to confirm a selection.
- In Live Viewing Mode, press to open the System Information window.
- In Live Viewing Mode, press and hold for 6 seconds to open the PTZ menu.

6 **USB Port**: Connect a USB mouse (included) or USB flash drive (not included) for data backup or firmware updates.

Rear Panel

8-Channel



1 **Video Input**: Connect up to 8 BNC cameras.

2 **Video Output**: Outputs the DVR interface to a BNC connection. This allows you to see your mouse cursor and have full control of the system on a secondary monitor.

NOTE: Use a BNC to RCA adapter (not included) to connect the DVR to RCA inputs (i.e. for a TV connection).

3 **Audio In**: Connect up to 8 RCA audio-enabled cameras (not included).

4 **VGA**: Connect a VGA monitor (not included) to view the system interface.

5 **PTZ / Alarm Block**: Connect compatible PTZ cameras (not included) or alarm devices (not included).

6 **IR-EXT**: Service only; not supported.

7 **On / Off Switch**: Turns the DVR on or off.

8 **DC12V**: Connect the included AC power adapter.

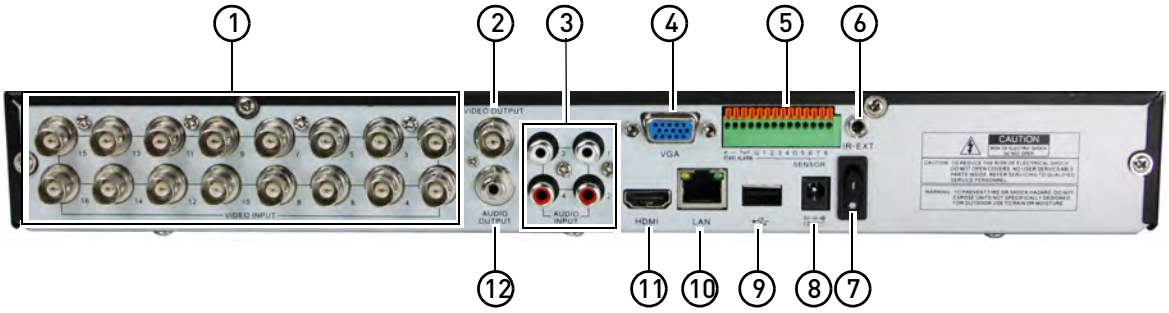
9 **USB Port**: Connect a USB mouse (included) or USB flash drive (not included) for data backup or firmware updates.

10 **LAN**: Connect a CAT 5 RJ45 Ethernet cable for local and remote connectivity.

11 **HDMI**: Connect to a HDMI-compatible TV or monitor (not included) to view the system interface.

12 **Audio Out**: Output for 1 audio channel (e.g. speakers).

16-Channel



1 **Video Input**: Connect up to 16 BNC cameras.

2 **Video Output**: Outputs the DVR interface to a BNC connection. This allows you to see your mouse cursor and have full control of the system on a secondary monitor.

NOTE: Use a BNC to RCA adapter (not included) to connect the DVR to RCA inputs (i.e. for a TV connection).

3 **Audio In**: Connect up to 4 RCA audio-enabled cameras (not included).

4 **VGA Output**: Connect a VGA monitor (not included) to view the system interface.

5 **PTZ / Alarm Block**: Connect compatible PTZ cameras (not included) or alarm devices (not included).

6 **IR-EXT**: Service only; not supported.

7 **On / Off Switch**: Turns the DVR on or off.

8 **DC12V**: Connect the included AC power adapter.

9 **USB Port**: Connect a USB mouse (included) or USB flash drive (not included) for data backup or firmware updates.

10 **LAN**: Connect a CAT 5 RJ45 Ethernet cable (included) for local and remote connectivity.

11 **HDMI Out**: Connect to a HDMI-compatible TV or monitor (not included) to view the system interface.

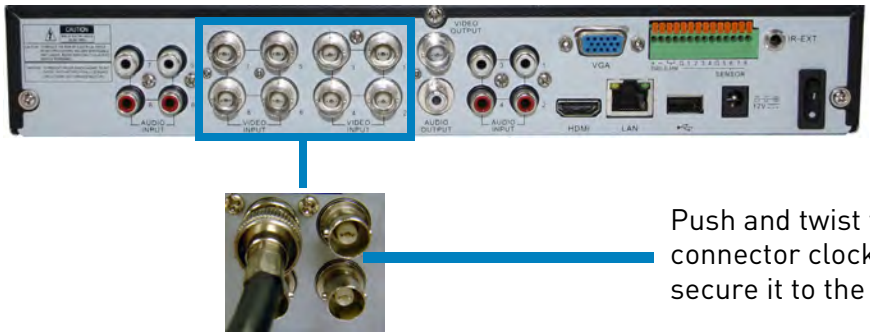
12 **Audio Out**: Output for 1 audio channels (e.g. speakers).

Basic Setup

Step 1: Connect the BNC Cameras

- Connect BNC cameras to the **Video In** ports on the rear panel of the DVR.

8-channel model shown



Step 2: Connect the Mouse

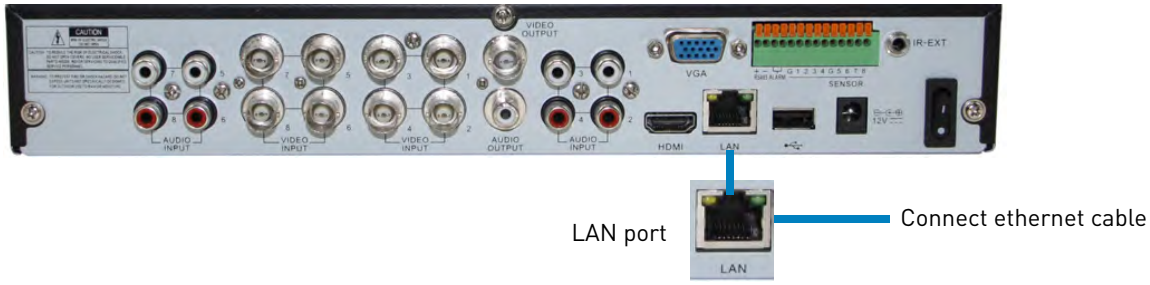
- Connect a USB mouse (included) to one of the **USB** ports.

8-channel model shown

Step 3: Connect the Ethernet Cable

- Connect an ethernet cable (included) to the **LAN** port on the rear panel of the DVR. Connect the other end of the ethernet cable to a router on your network.

8-channel model shown

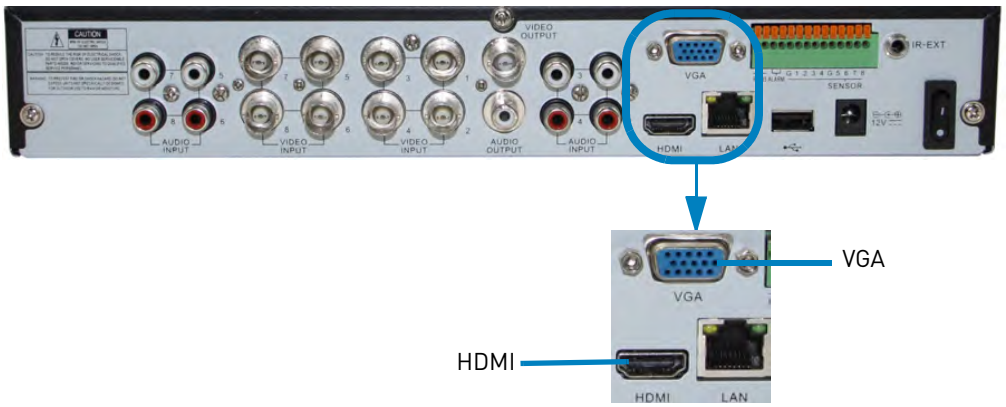


Step 4: Connect the Monitor

- Connect the included HDMI cable from the **HDMI** port to the TV or monitor (recommended) **OR**;
- Connect a VGA cable (not included) from the **VGA** port to the monitor.

NOTE: If you have a monitor with a DVI input, you must use an HDMI to DVI adapter (not included). You cannot use an DVI to VGA adapter.

8-channel model shown



Step 5: Connect the Power Adapter and Power on the DVR

- Connect the included power adapter to the **DC 12V** port. Connect the end of the power adapter to a wall socket or a surge protector.
- Turn the power switch to **I** to turn on the DVR. At startup, the system performs a basic system check and runs an initial loading sequence. After a few moments, the system loads a live display view.

8-channel model shown

Step 6: Verify Camera Image

- Power on the cameras, and then verify the camera video quality before mounting the cameras to a permanent location.
- Mount the cameras under a sheltered location. Always verify the outdoor rating of your camera before installing it in a permanent location.

Step 7: Set the Time

- Set the system time and date for accurate video time stamps. Videos with inaccurate times may not be valid as surveillance evidence.
- For details on setting the system time, see “Setting the Date and Time” on page 20.

Default System Password & Port Numbers

By default, the system user name is **admin** and the password is **000000**. Passwords are disabled by default and are not required to access the Menu Bar or Main Menu. However, you may be asked for a password to access certain functions. It is recommended that you enable passwords and create your own password. For details, see "Managing Passwords" on page 32.

- The system requires a user name and password to log in to the system **remotely** using a computer or mobile device.
- **ALL** the system port numbers below must be port forwarded on your router to log in to your system over the Internet or an internal network (LAN).

Local DVR user name and password:

- Username: **ADMIN** / Password: **000000**

Default ports for remote access:

- Port **80** (HTTP port)
- Port **9000** (Client port)
- Port **1025** (Mobile port)

Remote connectivity (LAN & Internet) to the DVR:

- User Name: **admin**
- Password: none (left blank)

Mobile connectivity (e.g. iPhone) to the DVR:

- User Name: **admin**
- Password: **0000**

Quick Access to System Information

- To quickly open a window that displays vital system information, press the **PTZ** / ↵ button on the front panel of the system.

Connecting Cameras

ATTENTION: Cameras differ in terms of installation or mounting instructions. Please see the documentation that came with your camera(s) for specific installation instructions.

Test the cameras before permanent installation. Plan where you will route the wiring for the camera and where you will aim the camera.

Installation Tips

- Mount the camera where the lens is away from direct and intense sunlight.
- Plan your cable wiring so that it does not interfere with power lines or telephone lines.
- Ensure that the camera wiring is not exposed or easily cut.
- Mount the camera in an area that is visible, but out of reach.
- Avoid pointing the camera at a glass window to see outside, as this may result in a poor image caused by glare from indoor / outdoor lighting conditions.
- Adjust the camera angle so that it covers an area with high traffic.
- In "high-risk" locations, have multiple cameras point in the same area. This provides camera redundancy if a vandal attempts to damage the camera.

Installing Cameras

1 Mount the camera(s) to the desired mounting surface according to the instructions that came with the camera(s). Choose a firm mounting surface.

NOTE: If you wish to mount cameras to drywall, it is recommended to use drywall plugs (not included).

2 Adjust the camera stand to ensure that the camera has a satisfactory view of the area you would like to monitor. Stand configuration depends on the mounting surface you have chosen (see below for suggested stand configurations).

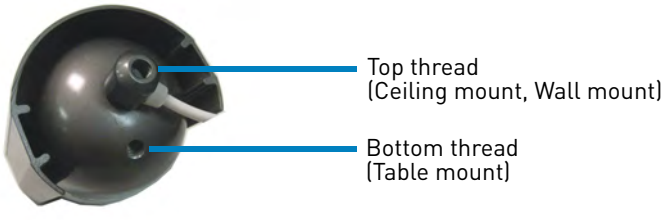
Table Mount

Wall Mount

Ceiling Mount

Camera model not be exactly as shown.

NOTE: There are two connection points for certain cameras. Secure the stand to the top thread for wall mounts or ceiling mounts. Secure the stand to the bottom thread for table mounts or wall mounts.



Camera model may not be exactly as shown.

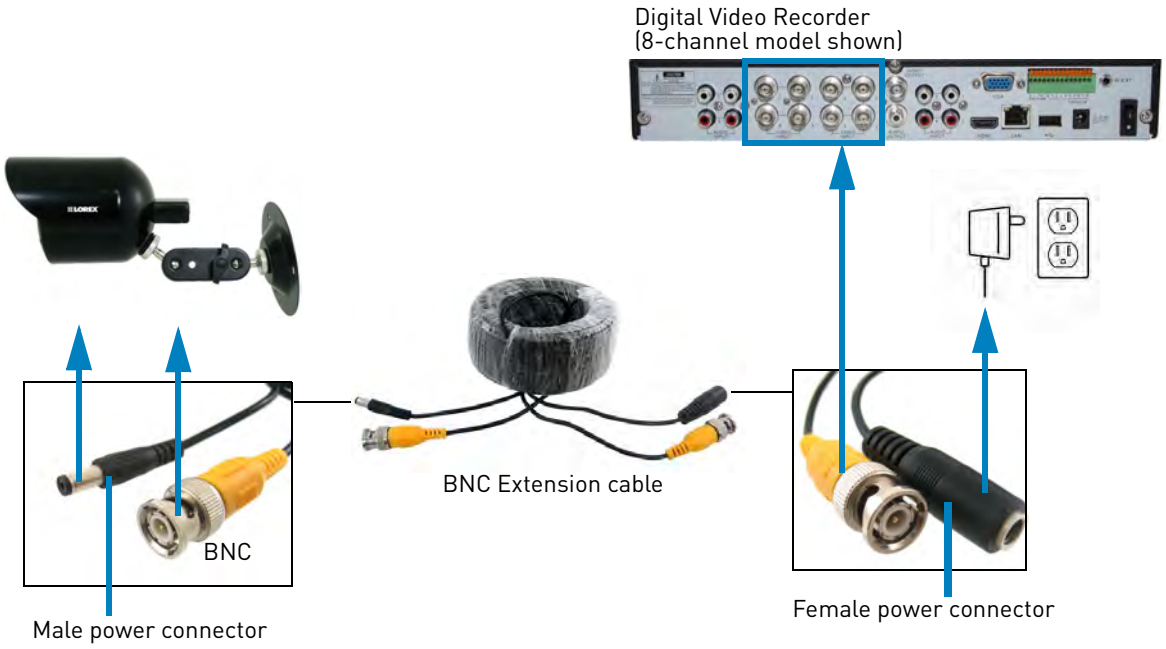
Connecting BNC Cameras to your DVR

1 Connect the male power connector on the BNC extension cable to the female power connector on the camera.
   • Connect the BNC connector to the camera.

2 Connect the female power connector on the BNC extension cable to the power adapter.

3 Connect the BNC connector to one of the **Video Input** ports on the rear panel of the DVR.

4 Plug the camera power adapter to a power outlet.



Connecting and Removing BNC Cables

BNC (Bayonet Nut Connector) is a special connector that locks on to the system port and cannot be accidently removed.

To connect or remove a BNC connector:

- Push the BNC connector firmly into the BNC port and simultaneously twist the connector clockwise to tighten.
- To remove a BNC connector from a BNC port, push and simultaneously twist the connector counter-clockwise to loosen the BNC connector.

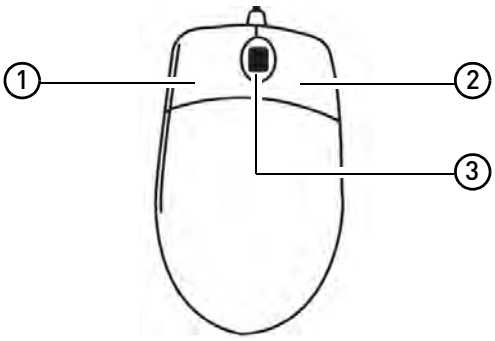
Mouse Control

The DVR is designed for mouse navigation. To use a USB mouse (included), connect the mouse to a **USB** port on the rear panel of the DVR.

8-channel model shown

1 Use the mouse buttons to perform the following:

- **Left-Button**: Click to select a menu option. During live viewing in Split-screen View, double-click on a channel to view the selected channel in full-screen; double-click the channel again to return to Split-screen View.



2 **Right-Button**:

- Click to open the Menu Bar (see "Using the Menu Bar" on page 16).
- In menus, use the right-button to go back / exit menus.

3 **Scroll-Wheel**: No function.

Remote Control

You can also control the DVR using the included remote control.

8-Channel Remote Control

1 **Number Keys (1-9)**: Press to select the desired channel in Full-screen View.

- ▦: In Live Viewing Mode, press to open Split-screen View. Press repeatedly to switch between split-screen viewing modes.
- **MENU**: Press to open the Main Menu. In menus, press to go back / exit menus.
- **0**: Press **0** three times to show the mouse cursor on the BNC monitor or the monitor connected with HDMI / VGA.

2 **Navigation Cursors**: Press to navigate menus.

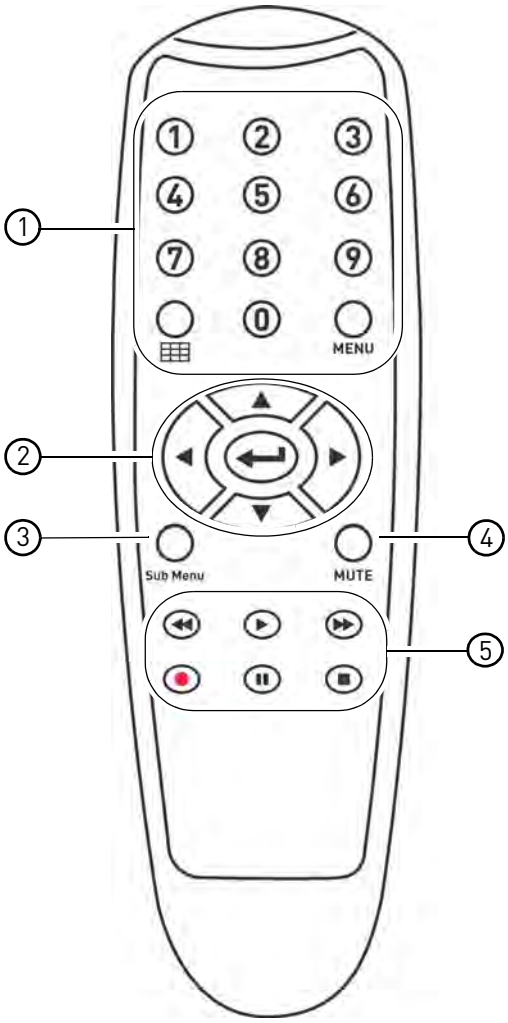
- ↵: Press to select menu items. In Live Viewing Mode, press to access System Information.

3 **SUB MENU**: Press to open the Menu Bar.

4 **MUTE**: Press to mute / un-mute audio during Live Viewing and Playback Mode*.

5 **Playback Controls**:

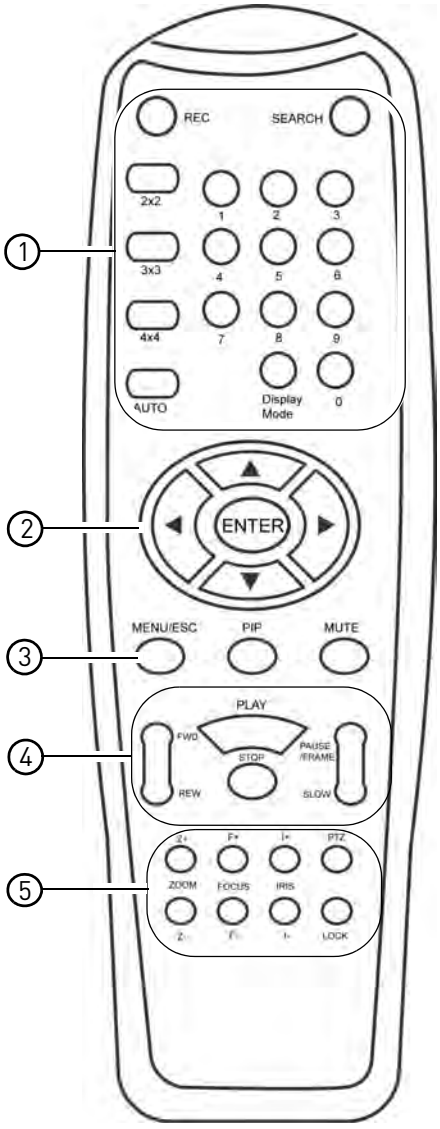
- ⏩: In Playback Mode, press to fast forward / increase fast forward speed.
- ⏪: In Playback Mode, press to rewind / increase rewind speed.
- ⏵: In Live Viewing Mode, press to open the Search Menu to select video for playback.
  - In Playback Mode, press to play video.
- ⏸: In Live Viewing Mode, press to start Sequence Mode.
  - In Playback Mode, press to pause video. Press repeatedly to step through video frames.
- ■: Press to stop recording. Password required; does not override scheduled recording.
- ●: Record: Press to resume recording after recording has been stopped. Password required.



*Audio capable cameras (not included) are required for audio recording and listen-in audio functionality.

TIP: When using the remote control to enter password and camera titles, select the field using the navigation buttons, press ↵, and then press the number buttons.

16-Channel Remote Control



1 **REC:** Press to resume recording after recording has been stopped.

- **SEARCH**: Press to open the Search menu.
- **Number Keys (1-0)**: In Live Viewing Mode, press to open the desired channel in Full-screen view. Press 1+0 for channel 10, 1+1 for channel 11, etc.
- **0**: Press **0** three times to show the mouse cursor on the BNC monitor or the monitor connected with HDMI / VGA.
- **Display Mode**: In Live Viewing Mode, press repeatedly to switch through split-screen viewing modes.
- **2x2 / 3x3 / 4x4**: In Live Viewing Mode, press to open the corresponding Split-screen View. Press repeatedly to change channels shown in split-screen.
- **AUTO**: Press to start / stop Sequence Mode.

2 **Navigation Cursors**: Press to navigate menus.

- **ENTER**: In menus, press to confirm selections.
  - In Live Viewing Mode, press to access System Information.

3 **MENU/ESC**: Press to open the system menu. In menus, press to go back / exit menu.

- **MUTE**: In Live Viewing and Playback Modes, press to mute / un-mute audio.
- **PIP**: In Live Viewing Mode, press once to open Picture in Picture (PIP) 1X1 or twice to open PIP 1X2. Mouse is required to change channels shown in PIP.

4 **Playback Controls**:

- **FWD**: In Playback Mode, press to fast forward / increase fast forward speed.
- **REW**: In Playback Mode, press to rewind / increase rewind speed.
- **PLAY**: In Playback Mode, press to play / pause video.
  - In Live Viewing Mode, press to open the Record Search Menu.
- **STOP**: In Playback Mode, press to pause playback.
  - In Live Viewing Mode, press to stop recording. Password required; does not override scheduled recording.
- **SLOW**: In Playback Mode, press to play video in slow motion. Press repeatedly to change slow motion playback speed.
- **PAUSE/FRAME**: In Playback Mode, press to pause. Press repeatedly to view recordings frame by frame.

5 PTZ Controls:

- **Z+/Z-** : Adjust camera Zoom.
- **F+/F-** : Adjust camera Focus.
- **I+/I-**: Adjust camera Iris.
- **PTZ**: Opens the PTZ menu.

Using the On-Screen Display

Use the system's graphical on-screen display to navigate menus and configure options and settings.

1 **Date & Time**: Displays the date and time on the system

2 **Record Status**: Displays the current recording status of the system: **C**=continuous (normal recording); **M**=motion recording; **A**=alarm recording.

3 **Channel number / Channel title**: Displays channel number or channel title. To rename the channel number to a title, see "Configuring Custom Channel Names" on page 36.

Tip:
If you can't see your mouse cursor on screen:
You may have switched output modes from VGA/HDMI to BNC. By default, the DVR outputs to VGA/HDMI mode.

How To Change Video Outputs:

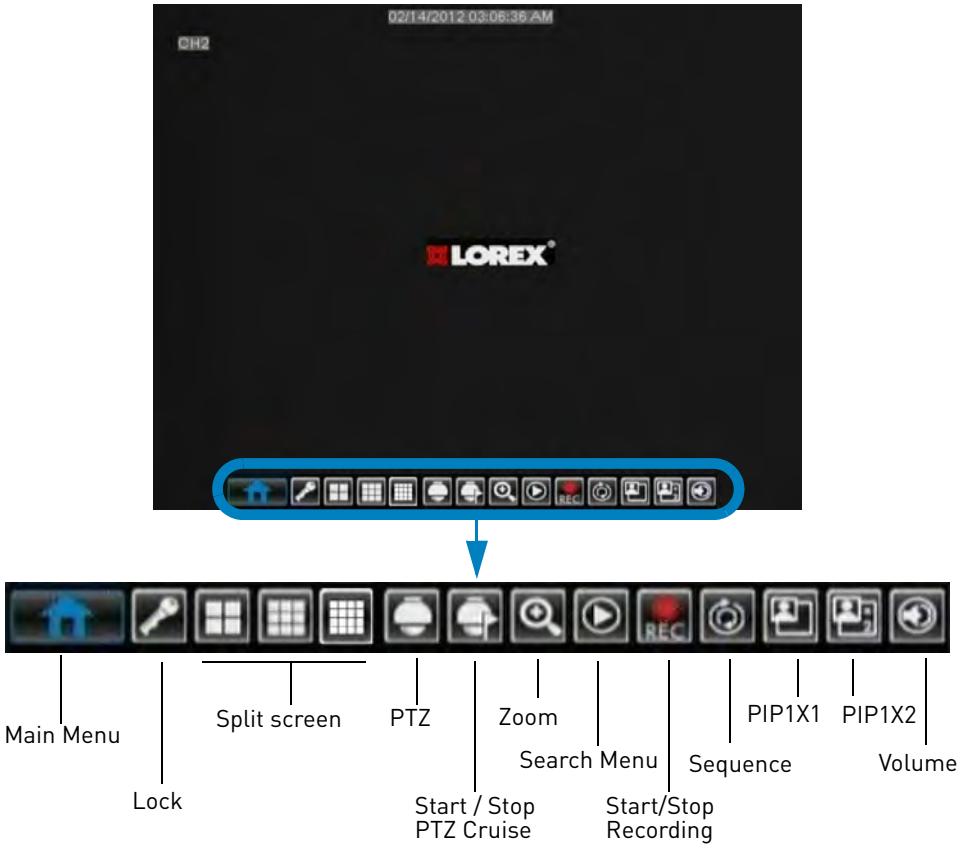
Front Panel	Remote Control
Press and hold **0** for 6 seconds.	Press **0** three times.

Using the Menu Bar

The Menu Bar allows you to access the Main Menu and control basic functions of the DVR.

To access the Menu Bar:

1 Right-click or move the mouse cursor to the bottom of the screen to access the Menu Bar.



Menu Bar Icons

- **Main Menu**: Opens the Main Menu.
- **Lock**: Click to Lock the Main Menu unless the password is entered. Lock icon is not visible unless passwords are enabled.
- **Split Screen buttons**: View the DVR in 4-way, 9-way, or 16-way (16-channel models only) Split-screen Mode.
- **PTZ**: Opens the PTZ controls.
- **Start / Stop PTZ Cruise**: Start or stop the PTZ cruise function.
- **Zoom**: Opens digital zoom. Must be in Full-screen / Live Viewing Mode.
- **Record Search**: Opens the DVR Search Menu. This allows you to search for video recorded on the DVR.
- **Start / Stop Recording**: Start or stop DVR recording on all channels. Password required; does not override scheduled recording.
- **Start / Stop SEQ**: Start or stop Sequence Mode. In Sequence Mode, DVR automatically switches between channels every few seconds.
- **PIP 1X1**: Enable Picture in Picture Mode with 1 camera in full screen and 1 in a small window.
- **PIP 1X2**: Enable Picture in Picture Mode with 1 camera in full screen and 2 in small windows.
- **Volume**: Adjust the DVR volume (audio-capable cameras required, not included).

Using the Virtual Keyboard and Mini-Keyboard

You can input numeric or text values using the on-screen virtual keyboard. You will need to use the Virtual Keyboard when entering your User ID and Password. The Virtual Mini-Keyboard is used to input numeric values, such as the time and date.

To use the Virtual Keyboard:

1 Using the mouse, click on an option or field, such as the User ID and Password fields (if passwords are enabled).

- The Virtual Keyboard opens.

Virtual Keyboard

- Click **Shift** to switch between upper and lowercase letters.
- Click ◄ ► to move the cursor between letters.
- Click ← to Backspace/Delete.
- Click **Enter** to enter your selection.
- Click **ESC** to close the virtual keyboard.

To use the Virtual Mini-Keyboard:

1 Using the Mouse, click on an option or field, such as the Time or Date fields.

- The Virtual Mini-Keyboard opens.

Virtual Mini-Keyboard

- Click ← to go back to the previous option.
- Click ↵ to enter your selection.

Using the Zoom Mode

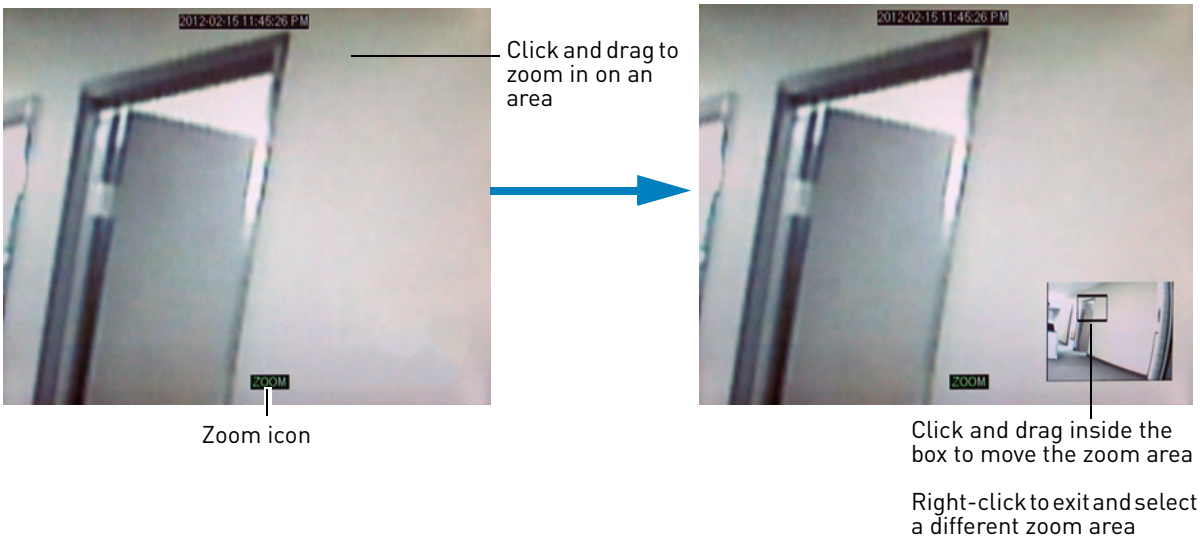
Zoom Mode allows you to zoom in on an image while viewing your cameras live. This can be useful if you want to get a closer look at a situation.

To use the Zoom Mode:

1 In Live Viewing Mode, select the channel you want to zoom in on in full-screen (double-click the channel if you are in a Split-screen View).

2 Right-click to open the Menu Bar and select the Zoom button ( ). A Zoom icon appears on the screen.

3 Click and drag on the area of the screen you would like to enlarge. The image zooms in on the selected area.



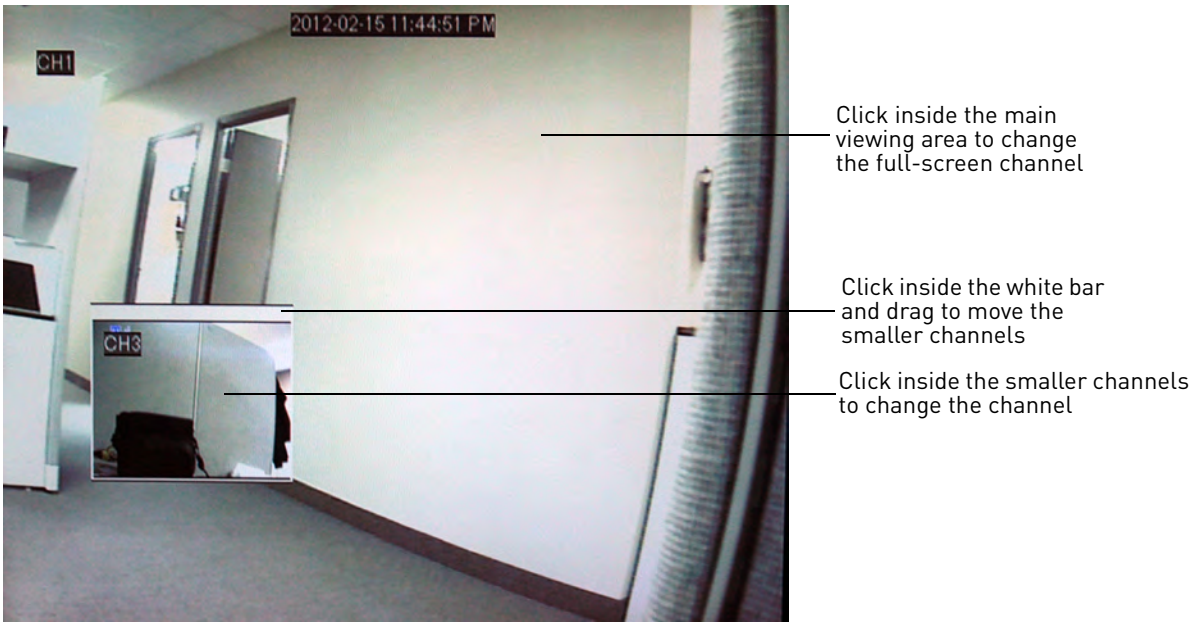
- The box in the lower right-hand corner shows the entire camera picture with a black box around the zoomed-in area.
- Click inside the box and drag to move the zoom area.
- Right-click to exit and select a different zoom area. Right-click again to exit Zoom Mode and return to Live Viewing Mode.

Using Picture in Picture (PIP) Mode

Picture in Picture (PIP) Mode allows you to view one channel in full-screen while viewing up to two other channels.

To use Picture in Picture Mode:

1 Right-click to open the Menu Bar and select the PIP1X1 button ( ) or PIP1X2 button ( ). PIP1X1 shows 1 channel in full screen and 1 other channel; PIP1X2 shows 1 channel in full screen and 2 other channels.



- Picture in Picture Mode opens.
- To change the full-screen channel, click anywhere in the main viewing area.
- To change the smaller channels, click inside the channel.
- To move the smaller channels around the screen, click inside the white bar and drag.
- Right-click to exit and return to Live Viewing Mode.

Setting the Date and Time

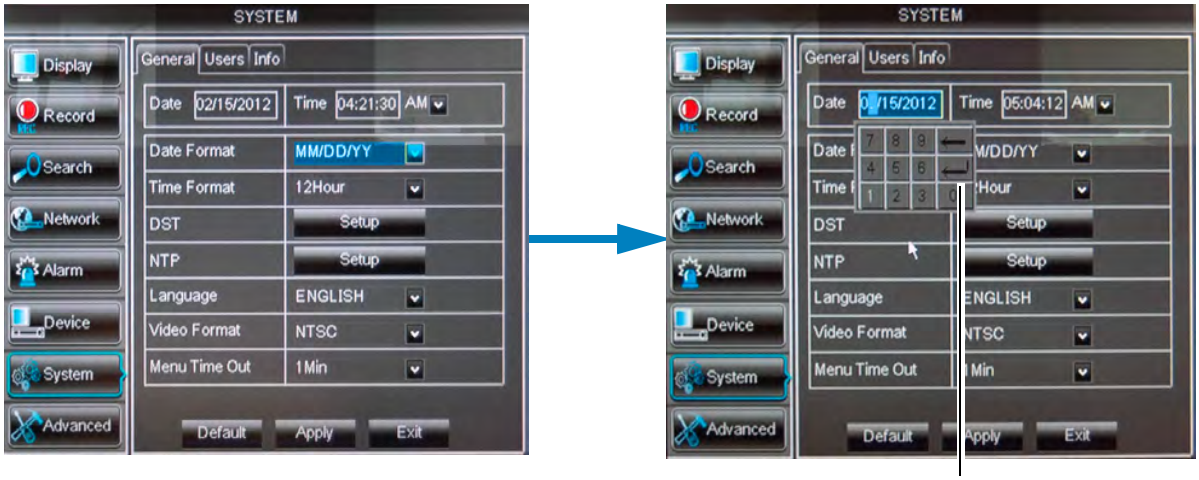
It is highly recommended to set the date and time when first setting up your system.

Inaccurate time stamps may render your footage unusable for court evidence.

To set the date and time:

1 Right-click or move your mouse to the bottom of the screen to open the Menu Bar and click the Main Menu button ( ).

2 Click **System.**



3 Configure the following:

- **Date**: Click inside the field and enter the month, date, and year.
- **Time**: Click inside the field and enter the time.
- **(Optional) Date Format**: Use the drop-down menu to select **MM/DD/YY** or, **DD/MM/YY**, or **YY-MM-DD**.
- **(Optional) Time Format**: Use the drop-down menu to select **12HOURS** or **24HOURS**.
- **(Optional) DST**: Click the **Setup** button next to DST to configure automatic Daylight Savings Time adjustments.
- **(Optional) NTP**: Click the **Setup** button next to NTP to synchronize your DVR's time and date with a Network Time Protocol (NTP) time server. Lorex provides a free NTP service that automatically updates your DVR's time for Daylight Savings Time.

NOTE: A constant internet connection is required for the NTP server feature to function.

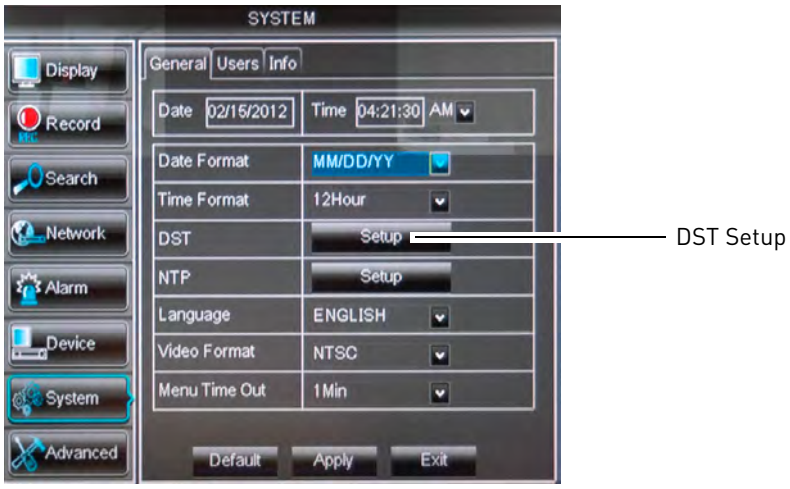
4 Click **Apply** to save your settings.

Configuring Daylight Savings Time (DST)

If your region observes Daylight Savings Time (DST), follow the instructions below to configure your DVR to automatically update the time when the clock updates.

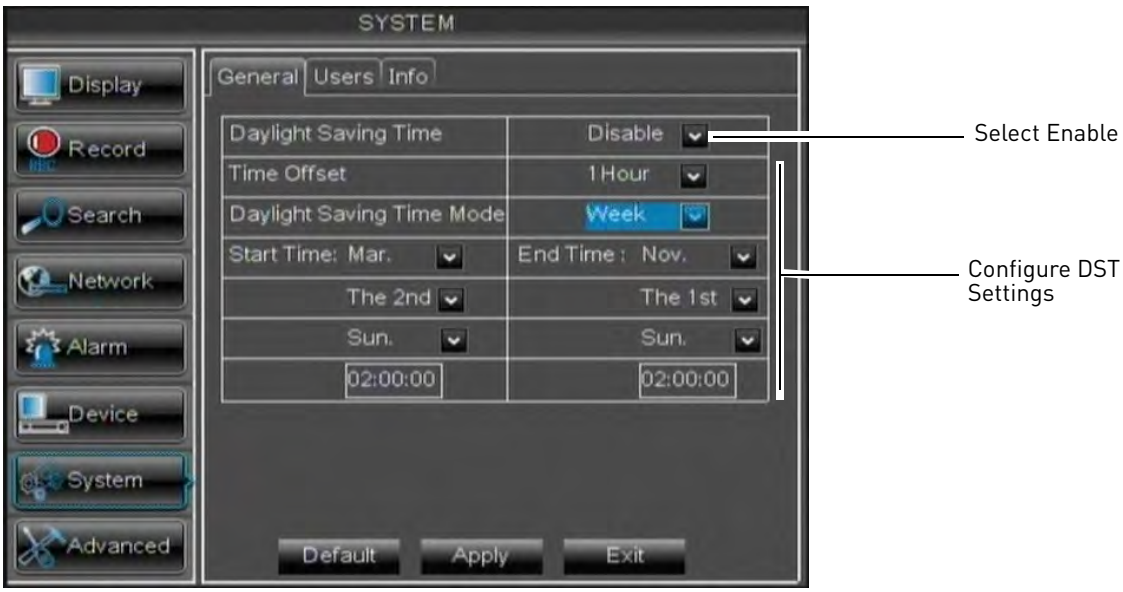
To enable automatic DST adjustments:

1 Click the **DST Setup** button.



2 Configure the following:

- **Daylight Saving Time**: Select **Enable**.
- **Time Offset**: Select the number of hours the system should move forward or backward when DST occurs.
- **Daylight Saving Time Mode**: Select **Week** or **Date**. This allows you to select whether DST should begin and end at the beginning of the week or on a specific date.
- **Start Time, End Time**: Enter when DST starts and ends.



3 Click **Apply** to save your settings.

Using a NTP Server to set your System Time

A NTP (Network Time Protocol) server syncs your system time with an online time server. Lorex provides a free NTP service that allows your DVR to automatically update the time for Daylight Savings Time.

NOTE: A constant Internet connection is required to use the NTP feature.

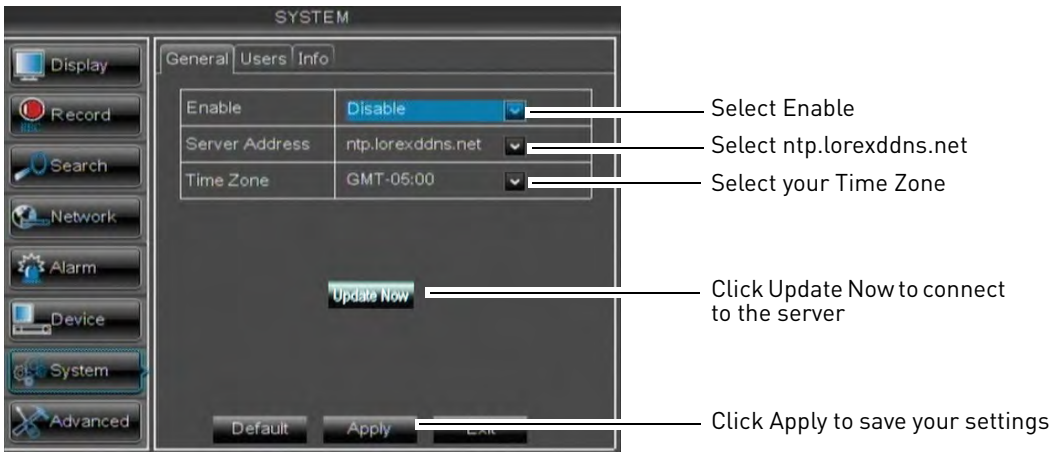
To enable NTP:

1 Right-click to open the Menu Bar and click the Main Menu button ( ).

2 Click **System**. Beside NTP, click **Setup**.

3 Configure the following:

- **Enable**: Select **Enable**.
- **Server Address**: Select **ntp.lorexddns.net** (recommended) as the time server or select another time server.
- **Time Zone**: Select your region's time zone.



4 Click **Update Now** to connect to the time server.

5 Click **Apply** to save your settings.

Recording

By default, the system is set to immediately record video from connected cameras in Continuous Recording Mode.

- C **Recording—Continuous**: Normal, continuous recording

You can set the system to stop recording once the hard drive is full, or to continually record by overwriting previously recorded data. For more details, see "Configuring Hard Drive settings" on page 50.

Event Recording

The system also includes motion recording:

- M **Recording—Motion**: The system records when motion is detected by the camera

Recording Audio

The system can also record audio for up to 8 channels (8-channel models) or 4 channels (16-channel model). You must have audio-capable cameras (not included) or self-powered microphones (not included) in order to record audio on the system.

For details, see "Appendix D: Recording Audio" on page 111.

Playback and Backup

You can view and back up recorded video on the system through the Search Menu.

Playing Back Recorded Video

To playback a specific date and time:

1 Right-click to open the Menu Bar and click the Record Search button ( ). The Record Search tab opens.

2 Configure the following:

- **CH**: Select the channel you wish to search. Select **All** to search all channels.
- **Search Date**: Enter the month, date, and year you wish to search for video.
- **Playback Time**: Enter the desired time you wish to search for video.

3 Click **Play** to select the exact time specified in Playback Time.

4 Select the channel or channels you want to play back and click **Play**.

To search for recorded footage on the DVR:

1 Right-click to open the Menu Bar and click the Record Search button ( ). The Record Search tab opens.

2 Configure the following:

- **CH**: Select the channel you wish to search. Select **All** to search all channels.
- **Search Date**: Enter the month, date, and year you wish to search for video.

3 Click the **Search** button. Your search results appear in the calendar. In the top portion of the calendar, results are shown for each day in the month. In the bottom portion, results are shown for each hour in the selected day.

Days in the selected month

Hours in the selected day

Search results:
Green: Continuous recording
Red: Motion or alarm recording
Grey: No recording

4 Click on a date in the calendar to see the video available for that date.

5 Click on the hour of the video you want to play back.

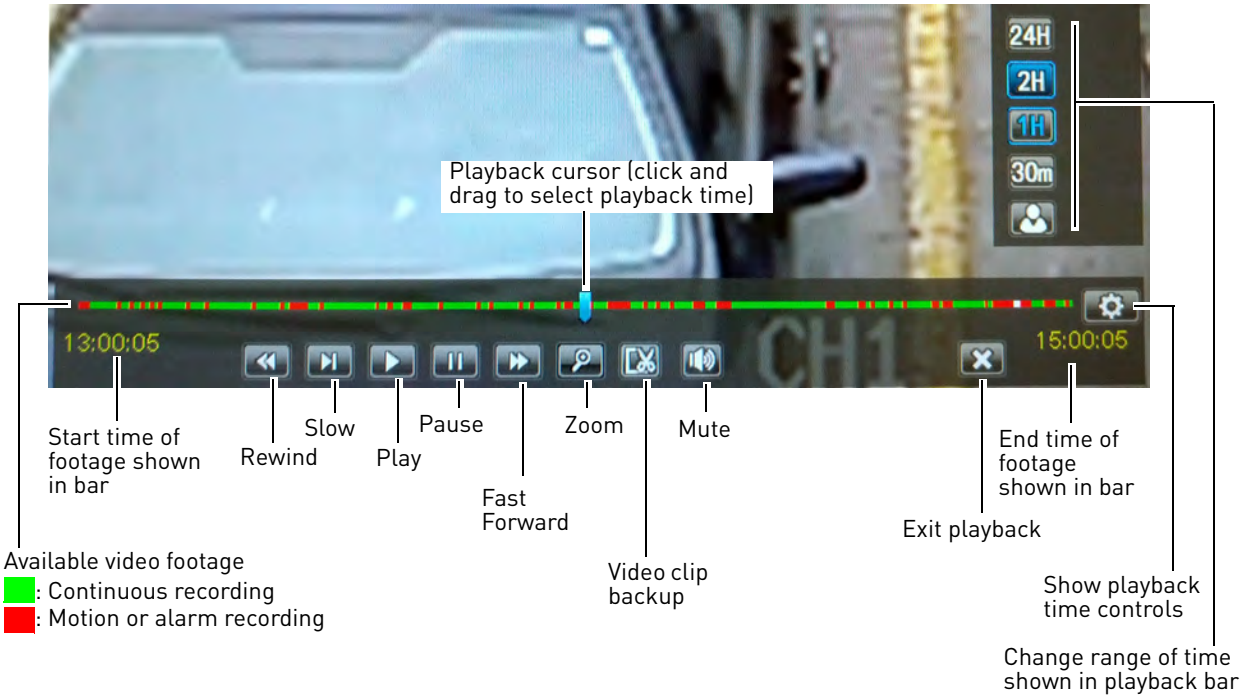
6 Select the channel or channels you want to play back.

7 Click **Play** to begin playback.

Using Playback Controls

This system features advanced playback controls that allow you to see when you have recorded footage and motion events on your cameras. They also allow you to use digital zoom in playback mode or take backups from short video clips.

Different playback controls appear depending on the number of cameras you have selected to playback. All available controls appear when you playback from a single camera.



To use the advanced playback controls:

1 Move the mouse slightly to display the on-screen playback controls. You can also use the playback control buttons on the remote control.

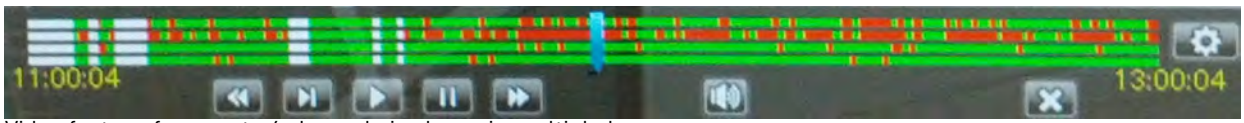
- Click the playback controls to play, pause, fast forward, rewind, and slow down playback.
- Click **X** or right-click to quit playback and return to the Search Menu.

Finding Events in the Playback Bar

The advanced playback controls show the time and type of video footage available. Continuous recordings are shown in green and motion or alarm recordings are in red.

NOTE: Motion detection or alarms must be enabled for each channel before they will be highlighted, see "Alarm" on page 49 for details.

When up to four channels are selected for playback, multiple channels are shown.



Video footage from up to 4 channels is shown in multiple bars

If more than four channels are selected, one bar is shown that combines all the selected channels. This means that video available on any selected channel will be shown in the bar.

Controlling the Time Range of the Playback Bar

The time range is the start and end times of the footage displayed in the Playback bar. By default, the Playback bar displays recordings recorded on the day selected for playback (from 00:00~24:00). You can change the time range to narrow in on a specific time.

To control the time range of the Playback bar:

1 During Playback mode, click to open the time range controls.

2 Click **30m**, **1H**, **2H**, or **24H** to select a time range. For example, if 30m is selected, the playback bar will show 15 minutes before to 15 minutes after the currently playing time.

OR

- To create a custom time range, click . The button will become colored. Move your mouse to the time you where you would like the range to start and click. Then, move your mouse to the time you where you would like the range to end and click. The start and end times will be replaced by the 1st and 2nd times that you clicked on.

Using Zoom in Playback Mode

You can use Zoom in Playback Mode. This is useful if you need a closer look at recorded video.

NOTE: Zoom is only available when a single channel is selected for Playback.

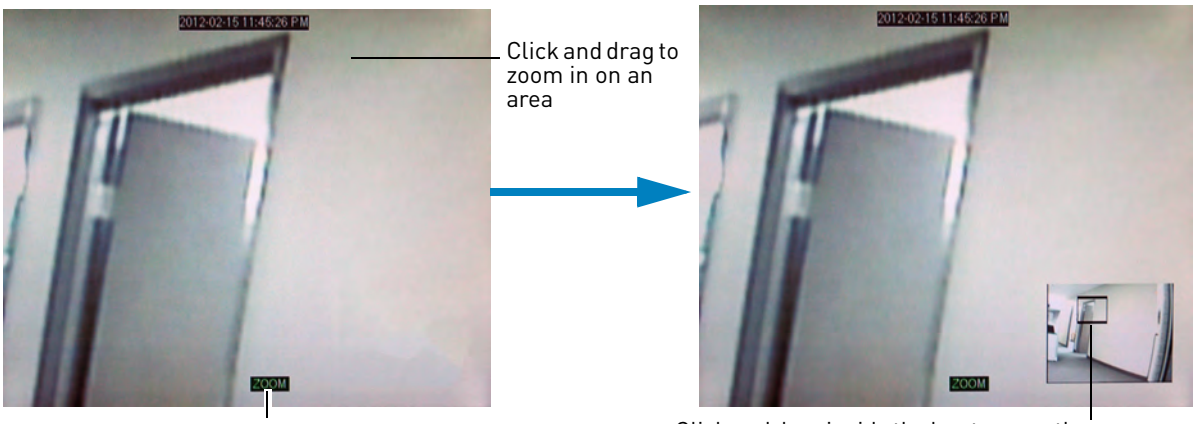
To use zoom in playback mode:

1 Open Playback mode with only one channel selected. For details, see "Playing Back Recorded Video" on page 24.

2 Click to open Zoom.

NOTE: Playback controls are not available when Zoom is activated. If you want to pause the video before you zoom, you will have to pause it before entering Zoom.

3 Click and drag on the area of the screen you would like to enlarge. The image zooms in on the selected area.



- The box in the lower right-hand corner shows the entire camera picture with a black box around the zoomed-in area.
- Click inside the box and drag to move the zoom area.

4 Right-click to exit and select a different zoom area. Right-click again to exit Zoom Mode and return to Playback Mode.

Using Video Clip Backup

Video clip backup allows you to select a duration of video during playback mode and save it to a USB flash drive (not included).

NOTE: Video clip backup is only available when a single channel is selected for Playback.

To create a backup video clip:

1 Connect a USB flash drive (not included) to one of the **USB** ports on the DVR.

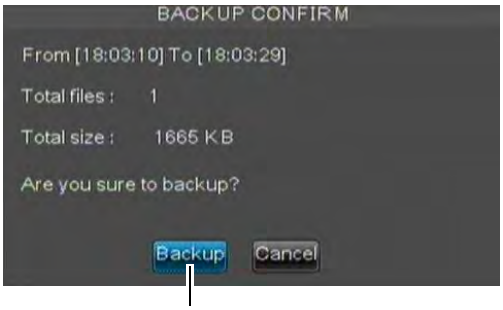
2 Open Playback mode with only one channel selected. For details, see "Playing Back Recorded Video" on page 24.

3 Click the clip backup button ( ) to start your backup at the current playback time.

4 When you want the backup clip to stop, click again.

TIP: You can use fast forward or click-and-drag the video cursor to select the stop time for the clip. This is useful because it allows you to backup longer segments of video without having to watch the whole video each time. You must have enough space on your USB flash drive to save the file.

5 A confirmation window appears, showing information about the backup file you are about to create. Click **Backup** to confirm. Wait for the file to be saved.



For details on viewing backed up video, see "Lorex Player 11: Playing Backed up Video on PC" on page 92 or see "Lorex Player for Mac: Viewing Backed up Video on Mac" on page 94.

Backing Up Video

You can back up video to a USB flash drive (not included) connected to the rear panel of the DVR.

To back up video:

1 Connect a USB flash drive to one of the **USB** ports on the rear panel of the DVR.

2 Right-click to open the Menu Bar and click the Record Search button ( ).

3 Click the **Backup** tab.

4 Configure the following:

- **Search Date**: Enter the desired month, date, and year
- **Search Time**: Enter the time range you wish to search.
- **CH**: Select the channel you wish to search. To search all channels, select **All**.
- **Type**: Select the type of recording you wish to search. Choose from **All, Continuous**, or **Alarm**.

5 Click **Search**. A list of videos populate in the window.

Click the BAK checkbox to select video to back up

Click Backup

6 Click ◀ ▶ to scroll through the list of videos. The videos are named by time. Videos are "packed" into 15 minute - 60 minute increments.

7 Click the **BAK** checkbox beside the video you wish to back up.

8 Click **Backup**. Wait for the backup to finish before removing the USB memory drive.

NOTE: To change the duration of how often a file is "packaged", see "Configuring Backup File Duration (Pack Duration)" on page 40.

Viewing Backed Up Video

To view the downloaded video, you must install the Lorex Player software.

For details on viewing backed up video, see "Lorex Player 11: Playing Backed up Video on PC" on page 92 or see "Lorex Player for Mac: Viewing Backed up Video on Mac" on page 94.

Converting Backed Up Video to AVI Files

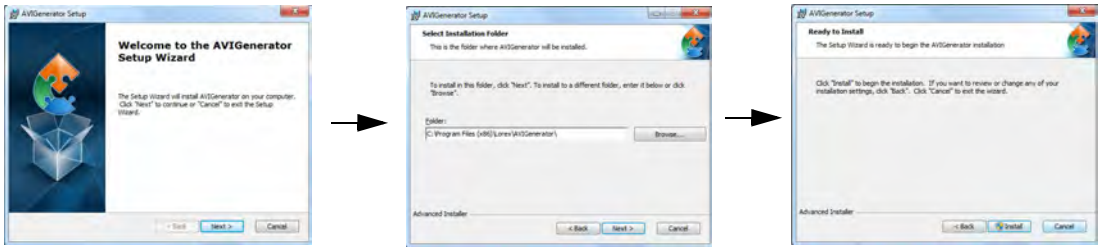
The DVR saves its backup files as proprietary video files. To share these files, you must convert them into .AVI files. Note that the AVI generator can also back up audio from audio-enabled cameras.

To install the AVI converter:

1 Insert the software disc in your computer's CD/DVD rom drive.

2 Locate the **AVI Generator** software from the CD installation wizard.

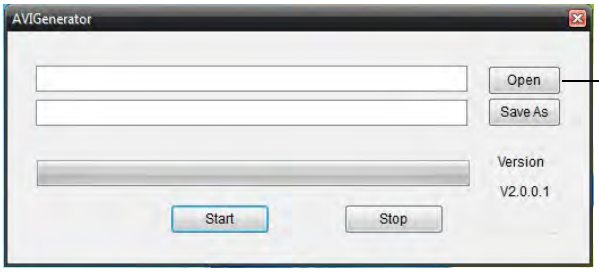
3 Follow the on-screen instructions to install AVI Generator.



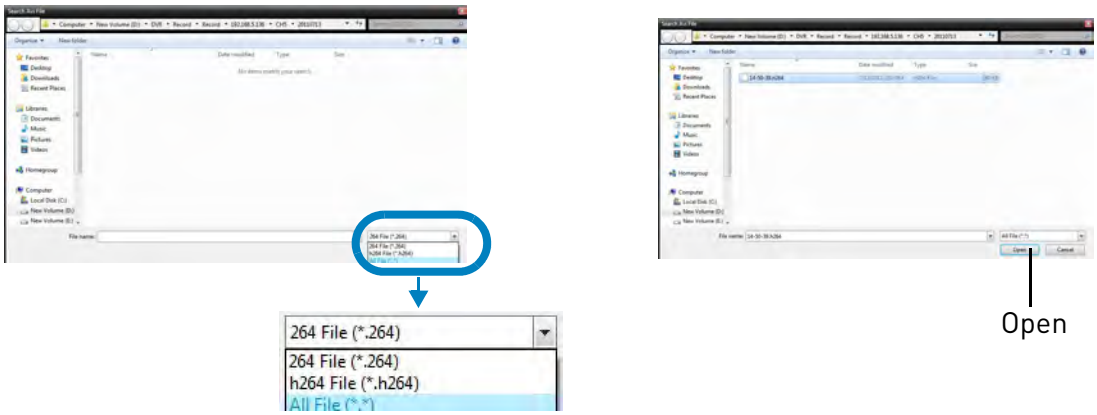
To start the AVI Generator:

1 Double-click the **AVI Generator** shortcut on the desktop ( ).

2 Click **Open** and then locate the backed up video file on your hard drive.

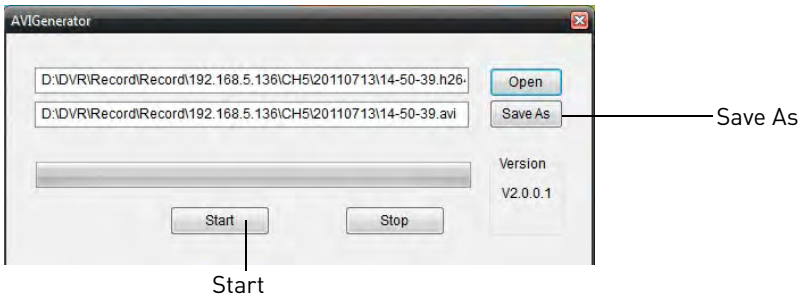


3 Select the desired file format (.264 , h.264, All File) that you wish to search for. Click **Open**.



4 Click **Start** to convert and save the file in the default save folder.

• Or click **Save As** to select a desired save folder, then click **Start** to convert the file.



5 Locate the file in the folder you selected in step 4.

Managing Passwords

ATTENTION: By default, the system user name is **admin** and the password is **000000**. Passwords are disabled by default and are not required to access the Menu Bar or Main Menu. However, you may be asked for a password to access certain functions.
You do not need to enter a password to access the system using the client software or a web browser

When you first startup your system, you are technically logged in as the ADMIN (system administrator) account. The system supports the following account types:

- **ADMIN**—system administrator: has full control of the system, and can change both administrator and user passwords and enable/disable password protection.
- **USER**—normal user: only has access to live viewing, search, playback, and other functions. You may set up multiple USER accounts with varying levels of access to the system.

For security reasons, it is highly recommended to enable passwords on your system. If you enable passwords, you must select a 6-digit ADMIN password. **By default, the system password is disabled.**

Enabling and Changing Passwords

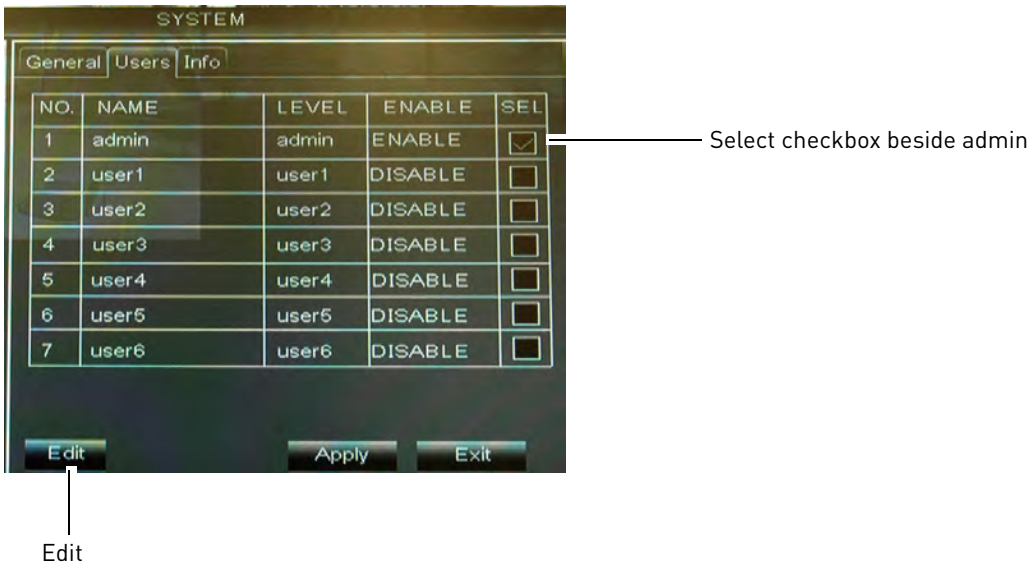
You can change the system password of the ADMIN and the USER from the Users menu.

To enable the admin password:

1 Right-click to open the Menu Bar and click the Main Menu button ( ).

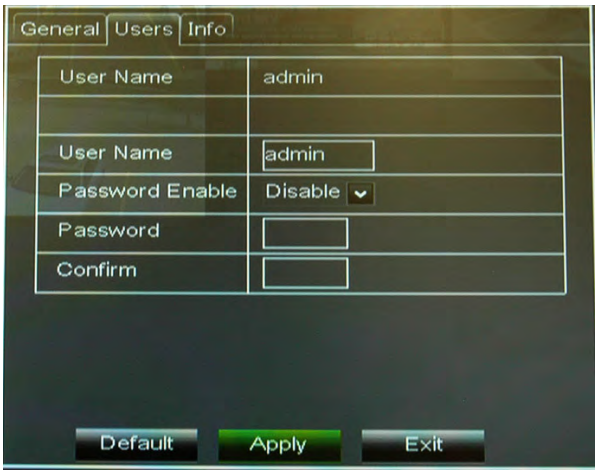
2 Click **System** and select the **Users** tab.

3 Select the checkbox beside admin to change the admin password, then click the **Edit** button.



4 Configure the following:

- **User Name:** Enter the desired admin user name.
- **Password Enable**: Select **Enable** to enable system passwords.
- **Password**: Enter your desired password.
- **Confirm**: Re-enter the password.



5 Click **Apply** to save your settings.

Adding Users

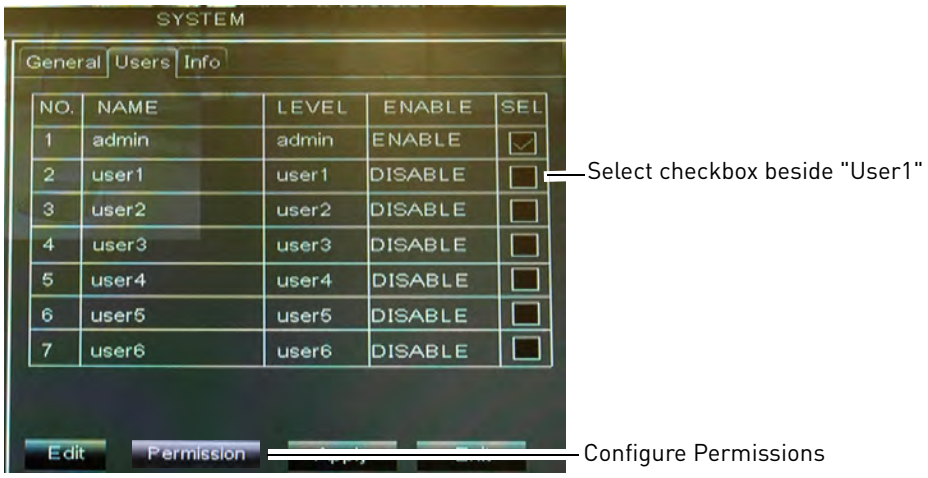
You can allow multiple users to log in to the system. When adding different users, you can assign what menus they have access to. For example, you may want your friend to monitor your system while you are away, while not giving full access to your system.

To add a new user:

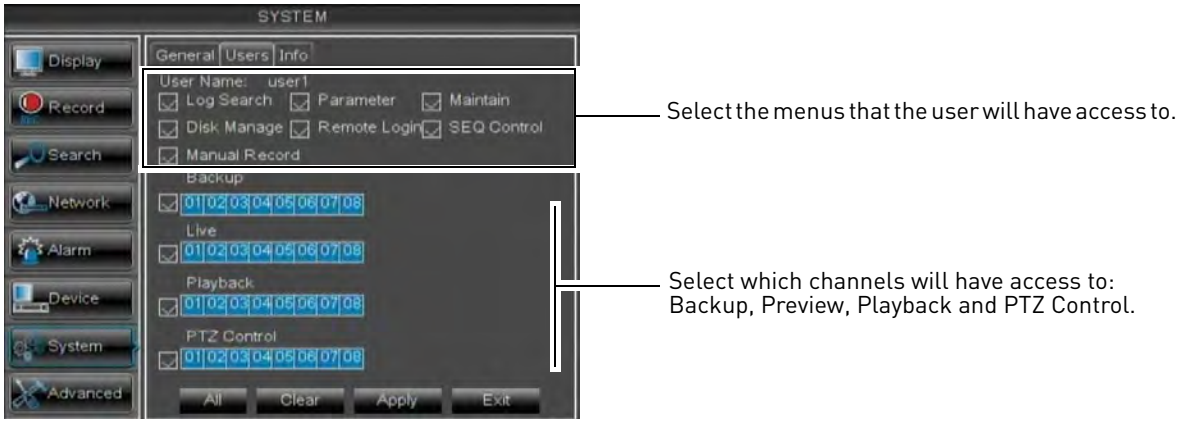
1 Right-click to open the Menu Bar and Click the Main Menu button ( ).

2 Click **System**→ **Users** tab.

3 Select the checkbox beside User1 (or any other user), then click the **Permission** button.



4 Select the menus and channels the user will have access to:



5 Click **Apply** to save your settings.

6 Configure the following:

- **User Name:** Enter the desired user name.
- **User Enable:** Select **Enable** to enable the user account.
- **Password Enable**: Select **Enable** or **Disable** to enable or disable the system from prompting you for a user or admin password during log in.
- **Password**: Enter your desired password.
- **Confirm**: Re-enter the password.

7 Click **Apply** to save your settings.

Now, you can log in to the system locally, or remotely using the user name or password you created. When logging into the system with a user account, the user will only have access to the menus you assigned.

Using the Main Menu

To open the Main Menu:

- Right-click to open the Menu Bar and click the Main Menu button ( ).

NOTE: If passwords are enabled on the system, you need to enter the 6-digit numerical password to open the Main Menu.

1. **Display**: Configure display options (e.g. camera color settings, camera title, video output).
2. **Search**: Search for recorded video and log files on the system.
3. **Alarm**: Configure motion detection and alarm settings.
4. **System**: Configure system time and user accounts.
5. **Record**: Configure recording settings and recording schedules.
6. **Network**: Configure system network settings (e.g. DDNS, email alert settings).
7. **Device**: Configure PTZ settings, HDD recording mode, HDD format option.
8. **Advanced**: Configure system restart schedule, perform firmware upgrades.

Display

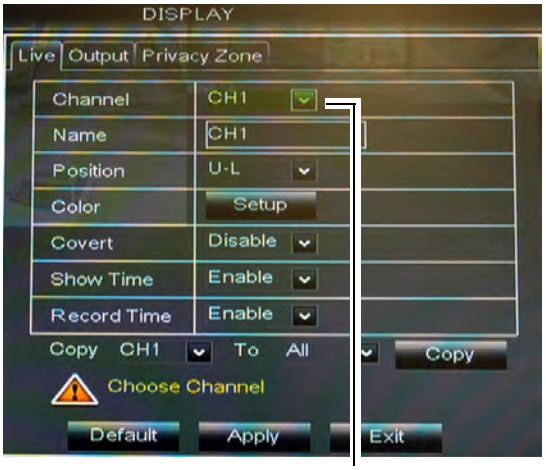
The display menu allows you to configure camera image settings and video output settings.

Tip: If you want to apply settings to all channels, use the "Copy To" drop-down menu, and select **All**. Click the **Copy** button to copy the setting across all channels.

Configuring Custom Channel Names

1 Select the **Live** tab.

2 In the **Channel** drop-down menu, select the channel that you wish to rename.



Channel drop-down menu

3 Click the **Name** field. Use the Virtual Keyboard to enter in the new channel name.

4 Click **Apply** to save your settings.

Changing the Position of the Channel Name

1 Select the **Live** tab.

2 In the **Channel** drop-down menu, select the channel you would like to configure.

3 In the **Position** drop-down menu, select where you would like the channel names to appear:

- **U-L**: Upper left hand corner.
- **D-L**: Lower left hand corner.
- **U-R**: Upper right hand corner.
- **D-R**: Lower right hand corner.
- **OFF**: Do not display the channel name.

4 (Optional) Use the drop-downs next to **Copy** to copy settings to another channel or all channels. Click the **Copy** button to copy settings.

5 Click **Apply** to save your settings.

Adjusting Camera Color Settings

1 Select the **Live** tab.

2 In the **Channel** drop-down menu, select the channel that you wish to configure.

3 Click the **Setup** button next to Color. The Color Setup window opens.

4 Drag the slider to adjust the **Hue**, **Brightness**, **Contrast**, and **Saturation**.

5 Click **Apply** to save your settings.

Enabling Covert Recording

Covert Recording blanks out the screen so that it seems as if the system is not recording. Covert channels are only visible when the admin account logs in using a remote computer or mobile device.

To enable covert recording:

1 Select the **Live** tab.

2 In the **Channel** drop-down menu, select the channel you wish to hide.

3 In the **Covert** drop-down menu, select **Enable**.

4 Click **Apply** to save your settings.

Configuring the Time and Recording Time Display

To add/remove the time stamp in the system display:

1 In the **Live Time** and **Record Time** drop-down menu, select **enable** or **disable**.

2 Click **Apply** to save your settings.

Configuring Sequence Time

Sequence time refers to the amount of time a channel appears on the screen before changing to a different channel when the DVR is in Sequence Mode. For example, when Sequence Mode is on, channel 1 is shown for several seconds before switching to channel 2.

To configure the sequence time:

1 Click the **Output** tab.

SEQ Dwell time

2 Click the **SEQ Dwell time** field and enter the time channels remains on-screen before changing to another channel.

3 Click **Apply** to save your settings.

Changing the Video-out Resolution

1 Click the **Output** tab.

2 Click the drop-down menu beside **VGA Resolution** and select the output resolution.

3 Click **Apply** to save your settings.

4 Right-click repeatedly to exit all menus. The DVR prompts you to restart. Click **OK**.

5 The DVR restarts and asks you to confirm the new resolution. Click **Yes** to confirm or **No** to revert to the old resolution. If you do nothing, the DVR will revert to the last selected resolution and restart.

NOTE: If you select a resolution that is greater than what your monitor supports, you may see a blank screen when your DVR restarts. If this occurs, do not do anything and wait until the DVR restarts. If the screen remains blank, press and hold the Stop button (■) on the front panel of the DVR until the DVR restarts. Your system resolution will default to 1024 x 768.

Restoring the System's Resolution if you see a Blank Screen

If you see a blank screen on your monitor after turning on your system, the DVR's output resolution may be higher than what your monitor supports. Follow the steps below to restore the DVR's default resolution to 1024 x 768.

To restore the DVR's default resolution:

1 Ensure the power and video cables are properly connected.

2 Press and hold the Stop button (■) on the front panel of the DVR until the DVR restarts. The DVR will restart with the default resolution of 1024 x 768.

Stop button (■)

3 When the DVR restarts, click **Yes** to confirm the default resolution.

NOTE: If your system resolution is already in 1024 x 768, pressing and holding the Stop button will not restart the system.

Adjusting Menu Transparency

You can increase or decrease the transparency of the on-screen menus.

To adjust the transparency of on-screen menus:

1 Click the **Output** tab.

2 Drag the **Transparency** slider to adjust transparency.

3 Click **Apply** to save your settings.

Adjusting the Video Margin

If you connect your DVR to a BNC monitor, you can adjust the video margins.

NOTE: You must select the BNC output mode to adjust the margins. Press **0** three times on the remote control to switch the output mode between BNC mode and VGA/HDMI mode. When BNC mode is selected, the mouse cursor appears on the BNC monitor.

To adjust the video margin:

1 Click the **Output** tab.

2 Click the **Margin** button.

3 Drag the sliders to the left or right to adjust the Left, Right, Top, or Bottom Margin.

4 Click **Apply** to save your settings and click **OK** to confirm.

Adding Privacy Zones

A privacy zone allows you to block out up to 4 portions of each channel with a black square.

ATTENTION: Areas covered by privacy zones are not visible in recordings.

To configure a privacy zone:

1 Click the **Privacy Zone** tab.

2 In the **Channel** drop-down menu, select the channel you wish to configure.

3 Configure the following:

- **Channel**: Select the channel you wish to configure.
- **Privacy Zone**: Select **ON** to enable privacy zones or **OFF** to disable privacy zones.
- **Area Setup**: Select the **Area1~4** checkboxes to enable up to 4 privacy zones.

4 Click the **Setup** button next to Mask Area. The Privacy Area setup screen opens.

Click and drag to move privacy zones

Click Inside the edge and drag to resize

- Click on a privacy area and drag to change its location.
- Click on the edge of a privacy area and drag to resize a privacy area.
- Right-click when you are finished to exit.

5 (Optional) Use the drop-downs next to **Copy** to copy privacy areas to another channel or all channels. Click the **Copy** button to copy privacy areas.

6 Click **Apply** to save your settings.

Creating a Custom Split-screen Display

You can create a custom split-screen display and re-arrange where channels are placed.

TIP: You can use the steps below to create a custom split-screen display on a secondary monitor connected to the **Video Out** port. First, move the mouse and system interface to the Video Out monitor by pressing **0** three times on the remote control. Complete the steps, and then press **0** three times on the remote control again to return the mouse and system interface to the VGA or HDMI monitor. Your custom display will be saved on the secondary monitor.

To re-arrange the split-screen display:

1 Select the **Output** tab.

2 Under **View Setup**, select **Enable**. This lets you select and arrange the channels you want to show on the screen.

NOTE: Enabling View Setup disables your ability to change channels the normal way on the selected monitor. You will need to disable View Setup to return to normal operation.

Select Enable

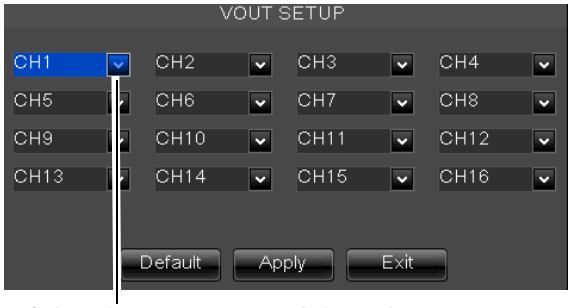
Select display mode

Click Vout Setup

3 Under **View Mode**, select the desired viewing mode: **Single**, **Quad**, **Nine**, or **Sixteen**.

4 Click **Vout Setup**. A menu appears that allows you to select the arrangement of channels.

5 Click the drop-down menus to select which channels to show on the screen and the arrangement of channels.



Select the arrangement of channels on screen

6 Click **Apply** to save changes. Click **Ok**. Right-click repeatedly to exit all menus and return to live viewing.

Record

The Record menu allows you to configure recording settings, such as the recording resolution, recording schedule, and audio recording.

Configuring Pre-recording Settings

1 Select the **Rec Para** tab.

2 In the **Channel** drop-down menu, select the desired channel you wish to configure.

3 In the **PreRecord** drop-down menu, select **Enable** to enable pre-recording or **Disable** to disable pre-recording.

4 Click **Apply** to save your settings.

Configuring Backup File Duration (Pack Duration)

"Pack Duration" refers to the duration of a backed up file in the system. By default, a recording is "packaged" into 15 minute video files.

To change the DVR's backed up file size:

1 Select the **Rec Para** tab.

2 In the **Pack Duration** drop-down menu, select the desired duration (15~60 minutes).

3 Click **Apply** to save your settings.

File Size duration

Changing the file size changes the duration of backed up files. For example, if you select 15 minutes as your file size, the system stores video files in 15 minute durations.

Configuring the Recording Schedule (Continuous, Motion, Alarm)

To configure the recording schedule:

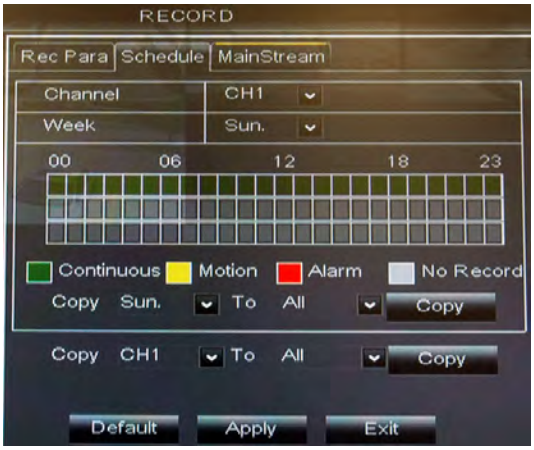
1 Click the **Schedule** tab.

2 Configure the following:

- **Channel**: Select the channel you wish to configure the schedule for.
- **Week**: Select the day of the week you wish to configure.

3 Click inside the grid to configure the recording schedule:

- The recording schedule is arranged as a grid. Each row represents a recording type (Continuous, Motion, and Alarm), and each box represents an hour.
- Recording for each recording type is enabled during the selected hour when the box is filled in with the corresponding color. Recording for each recording type is disabled for the selected hour when the box is gray.



4 (Optional): Use the top **Copy** and **Copy To** drop-down to copy the recording schedule to a specific day or all days. Click **Copy** to copy the schedule.

5 (Optional): Use the bottom **Copy** and **Copy To** drop-down to copy the recording schedule to a specific channel or all channels. Click **Copy** to copy the schedule.

6 Click **Apply** to save your settings.

Enabling Audio Recording

Audio-capable cameras are required (not included) for audio recording.

To enable audio recording:

1 Click the **MainStream** tab.

2 Beside the corresponding channel, select or deselect the checkbox under **Audio** to enable or disable audio recording.

3 Click **Apply** to save your settings.

Configuring Recording Quality, Resolution, and Video Frame Rate

You can configure the recording quality, recording resolution and video frame rate for each channel.

To change the recording quality, recording resolution, and video frame rate:

1 Click the **MainStream** tab.

2 Under **Mode**, select **D1** or **960H**. 960H will enable larger, wide-screen formats, but it will decrease the number of Frames Per Second available for recording. It is

recommended to select D1 if you have cameras that are not 960H-capable.

NOTE: If you change this setting, the DVR will restart when you save changes.

Under Mode, select D1 or 960H. Select D1 if you do not have 960H cameras.

Recording Resolution

Frames per Second

Recording quality

3 Under the **Quality** drop-down menu, select from **Good, Better**, or **Best** to adjust the quality of recordings on each channel.

4 Under the Resolution drop-down menu, select the Recording Resolution for each channel:

- If D1 is selected, available options are **CIF** (320x240), **HD1** (720x240), or **D1** (720x480).
- If 960H mode is selected, available options are **480x240**, **960x240**, or **960x480**.

5 Under the **FPS** drop-down menu, select the number of frames per second you want the DVR to record on each channel.

6 (Optional) Use the **Copy** and **Copy To** drop-down menus to copy recording settings to one or all channels. Click **Copy** to copy recording settings.

7 Click **Apply** to save your settings.

NOTE: Increasing the resolution or quality settings will decrease the amount of Frames per Second (FPS) the DVR can record. If you receive an error message when saving your changes, reduce the Resolution, Quality, or FPS and try again.

Search

The Search menu allows you to search for saved video on your system for playback and backup.

Searching for Video on the System

1 In the main menu, click **Search**, or click the Search Menu button ( ) in the menu bar.

2 In the **CH** drop-down menu, select the channel you wish to search or select **All** to search all channels.

3 Click the **Search Date** field, to enter the desired month, date, and year you wish to begin searching for video.

Search Date

4 Click **Search**.

5 Click on a date in the calendar to see the video available for that date.

Click a date to see video available

Click a time to play video from that time and date

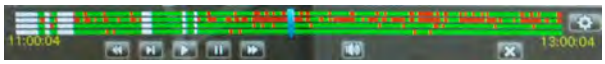
6 Click on the hour of the video you want to play back.

7 Select the channel or channels you want to play back.

8 Click **Play** to begin playback.

Video Playback Controls

Move the mouse slightly to display the on-screen playback controls. You can also use the playback control buttons on the remote control or front panel of the system.



Use the video control buttons to manipulate video playback

- Click **X** to quit playback and return to the Search menu.

Backing up Video Files

You can back up video files on your USB flash drive (not included).

To back up video files:

1 Perform a search.

2 Insert a blank USB flash drive in the rear panel of the system.

3 Click on the desired date you wish to back up.

4 Click the **Backup** button. A list of files appears in the Log menu.

Backup

5 Click the checkbox under **BAK** next to the file you want to backup.

6 Click the **Backup** button to begin copying the video files to your flash drive.

NOTE: You will need the Lorex Player (included on the CD) to view the saved files.

Using the Event Search

Event Search allows you to find videos that are marked as "Alarm" or "Continuous" recording type. This allows you to quickly and easily sort though videos that only have alarm attributes.

NOTE: Videos are not marked as Alarm unless continuous recording is turned off and motion or alarm settings are enabled.

To perform an Event Search:

1 Click the **Event Search** tab**.**

2 Configure the following:

- **Search Date**: Enter the Month, Date, and Year.
- **CH**: Select the channels you wish to search.
- **Search Time**: Enter the time range you wish to search.
- **Type**: Select the recording type you wish to search for.

3 Click **Search**. A list populates with videos.

4 Perform one of the following:

- **Play video**: Double-click on the desired file.
- **Back up a file**: Connect a blank USB flash drive to your system. Select the **BAK** checkbox beside the desired file name. Then, click the **Backup** button.

Using the Log Search

A log search allows you to search system event logs.

To perform a Log search:

1 Click the **Log** tab.

2 Configure the following to perform a Log search:

- **Log Type**: Select the log type you wish to search under. Choose from **Alarm** (i.e. motion events), **Operation** (i.e. Configuration changes, Setup), or **All**.
- **Start Time**: Enter the time you wish to begin searching.
- **End Time**: Enter the time you wish to end searching.

3 Click **Search**.

4 (Optional) Click the **Backup** button to backup system logs to a USB flash drive (not included).

Network

The Network menu allows you to configure the system's DDNS and network settings.

Configuring Network Type: DHCP & Static IP

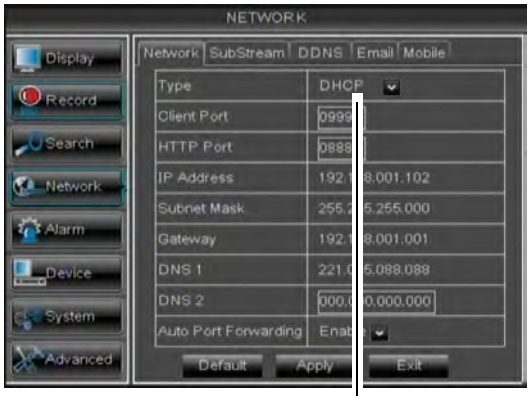
The system has the ability to operate in DHCP mode and Static IP mode.

After setting up your system, it is highly recommended to set your system to use a static IP address. This ensures that the IP address will not change if the power goes out or your router resets.

To configure DHCP and Static IP settings:

1 Select the **Network** tab.

2 In the **Type** drop-down menu, select **DHCP** or **Static**. If you select DHCP, the router automatically assigns an IP to your DVR.



Select DHCP or Static

If you select Static, click the field beside IP Address, and enter in the IP address of your choice.

- Enter your custom **Subnet Mask**, **Gateway**, **DNS1** and **DNS2** using the mouse.
- You must assign the IP in your router that you wish to make static. For example, if you assign 192.168.2.89 as the static IP in the DVR, you must assign 192.168.2.89 in

your router as a static IP as well. Consult your router's user's manual for details.

3 Click **Apply** to save your settings.

4 Right-click until you exit all menus. You will be prompted to restart.

Enabling Auto Port Forwarding

Auto Port Forwarding allows the DVR to open required ports on your router. This feature only works on certain router models. If the Auto Port Forwarding feature does not work on your router, it is recommended to use the Auto Port Forwarding Wizard (PC only), located on the software CD. You may have to manually open the port on your router.

To Enable Auto Port Forwarding:

1 Select the **Network** tab.

2 In the **Auto Port Forwarding** drop-down menu, select **Enable** or **Disable**.

3 Click **Apply** to save your settings.

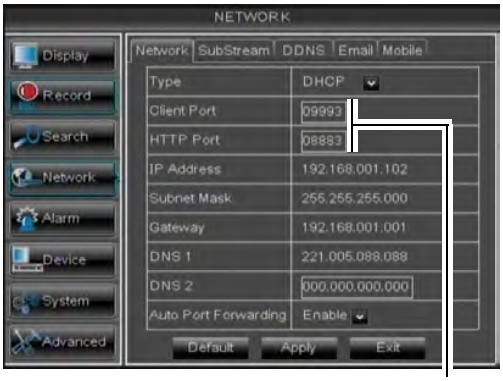
Changing the DVR's Client and HTTP Port

The DVR's Default Client port is **9000**. The default HTTP port is **80**. You must port forward the Client Port and HTTP port on your router to your DVR's IP address to enable remote access.

To change the Client port and HTTP port:

1 Select the **Network** tab.

2 In **Client Port**, enter the desired Client Port (default: **9000**).



Client Port & HTTP Port fields

NOTE: 9000 is represented as "09000."

3 In **HTTP Port**, enter the desired HTTP Port (default: **80**).

4 Click **Apply** to save your settings.

5 Right-click to exit all menus. You will be prompted to restart.

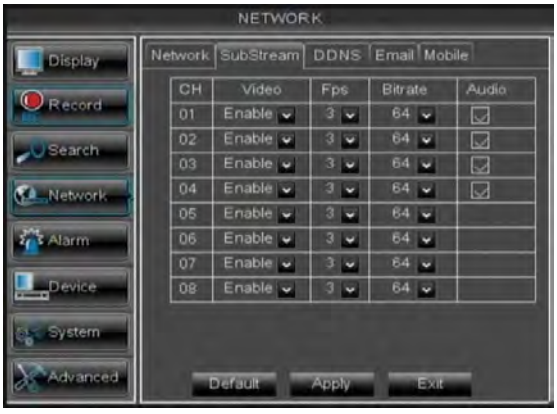
Adjusting Remote Connectivity Streaming Rates

You can adjust the data streaming rate (also called the SubStream) when you connect to the system remotely. If you want to conserve bandwidth, select a lower frame rate and bitrate.

NOTE: Setting your system to stream with a lower frame and bitrate may cause the video to appear choppy or slow.

To adjust the SubStream settings:

1 Click the **SubStream** tab.



2 Configure the following beside the desired channel:

- **Video:** Select **Enabled** or **Disabled**. If you select Disabled, you will not be able to view the channel when connecting remotely to the system.
- **FPS:** Select the desired frames per second.
- **Bitrate**: Select the desired video bitrate.
- **Audio**: Select or deselect the checkbox to enable or disable the system from streaming audio when viewing the system remotely.

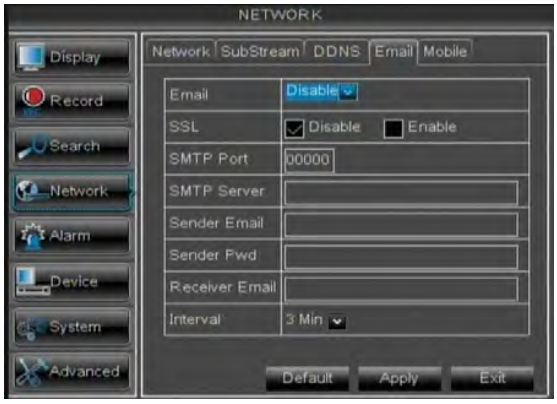
3 Click **Apply** to save your settings.

Setting up Email Notification

The system can send email notifications when it detects motion or when an alarm parameter triggers.

To set up email notification:

1 Click the **Email** tab in the Network menu.



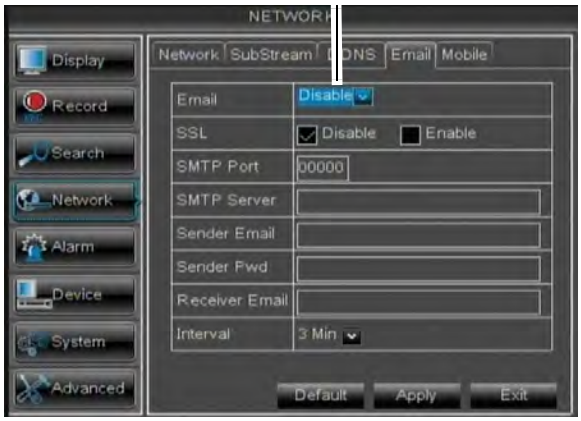
2 From the **Email** drop-down menu, select from:

- **Default**: Uses the Lorex email server to send out alarm notifications. This is the recommended selection.
- **Enable**: Uses custom email server settings.
- **Disable**: Disables email notification.

If you want to use Lorex's email server (recommended):

1 In the **Email** drop-down menu, select **Default**.

Select Default



2 In the **Sender Email** field, enter the email address of the sender. This can be any email address of your choice.

3 In the **Receiver Email** field, enter the email address you want the DVR to send alarm notifications to.

4 In the **Interval** drop-down menu, enter the Duration the DVR must wait before sending out a new notification.

For example, if you select a 3 minute interval, the DVR will send out email notifications every 3 minutes until the DVR stops detecting motion / alarm. The DVR will only send out notifications when it detects motion/alarm triggers.

5 Click **Apply** to save your settings.

If you select "Enable", and want to use your own email server:

1 Configure the following:

- **SSL**: Select **ON/OFF** to enable/disable Secure Socket Layer protocol.
- **SMTP Port**: Enter your SMTP address.
- **SMTP Server**: Enter your SMTP Server.
- **Sender Email**: Enter the sender email address. This can be any address of your choice.

- **Sender Password**: Enter your email server's password.
- **Receiver Email:** Enter the recipient's email address.
- **Interval:** Enter the interval the DVR waits before sending a new email notification.

2 Click **Apply** to save your settings.

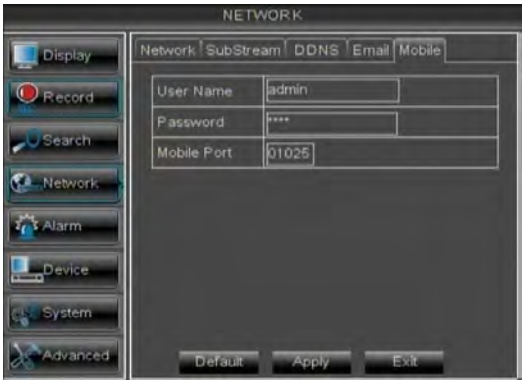
Changing the Mobile Connectivity Port, User Name, and Password

To connect to your DVR using a mobile device, you must complete the **entire** remote setup process described in "Setting up your DVR for Remote Connectivity" on page 56.

Use the steps below to change your Mobile Port or the user name and password used to connect with a mobile device.

To configure mobile connectivity settings:

1 Click the **Mobile** tab.



2 If you want to change the user name and password used to connect to the DVR using a mobile device:

- Under **User Name**, enter a new user name. Under **Password**, enter a new password.
- By default, the user name is **admin** and the password is **0000** to connect with a mobile device.

3 To change the Mobile port, click the field beside **Mobile Port** to enter a new port.

- The default Mobile port is **1025**. This must be port forwarded on your router to enable remote access. Note that 1025 is represented as "01025".

4 Click **Apply** to save your settings.

5 Right-click until you have exited all menus. You will be prompted to restart.

Configuring DDNS settings

You must create a DDNS account and enter your DDNS settings into the DVR before you can remotely connect to your system. For details on creating a DDNS account, see "Setting up your DVR for Remote Connectivity" on page 56.

To configure DDNS settings:

1 Click the **DDNS** tab.

2 Configure the following:

- **DDNS**: Select **Enable**
- **Server**: Select **LOREXDDNS** (default).
- **Domain Name**: Enter the Domain name/ URL Request you received in the email after registering for DDNS.
- **User Name**: Enter your DDNS User Name.
- **Password**: Enter your DDNS Device password.

3 Click **Apply** to save your settings.

NOTE: Please allow 10~15 minutes for the DDNS servers to update with your new DDNS address before attempting to connect.

Alarm

The Alarm tab allows you to configure Motion Detection and Alarm settings.

Configuring Motion Detection

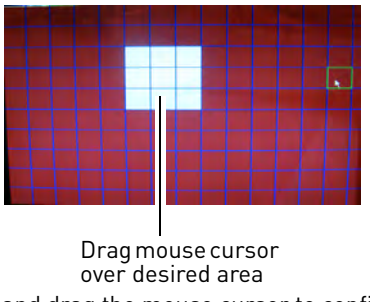
Configure motion settings to determine the area you wish to monitor for motion events, and the outcome if a motion event occurs.

To configure motion settings:

1 Select the **Motion** tab.

2 Configure the following:

- **Channel:** Select the channel you wish to configure.
- **Enable:** Select **Enable** or **Disable** to activate or deactivate motion recording.
- **Area:** Click the **Setup** button to configure the area of the screen that detects motion.



Click and drag the mouse cursor to configure motion detection areas. Motion detection is enabled in red areas and disabled in transparent areas. Right-click to exit.

- **Sensitivity:** Select motion sensitivity. The greater the number, the greater the sensitivity.
- **Alarm Out:** Select the checkbox to enable the system to trigger a device connected to the alarm block.
- **Latch Time:** Enter the duration the alarm continues to trigger after the event ends.
- **Show Message:** Select the checkbox if you want the system to display a system message when an alarm triggers.
- **Buzzer:** Select the duration the system will "beep" when motion is detected. Or select **OFF** to disable the "beep" during motion events.
- **Send Email:** Select the checkbox if you want the system to send email notifications if an alarm triggers. Email notifications must be configured.
- **Record Channel**: Select the channel you wish the DVR to record during motion recording.
- **Full Screen:** Select the **Full Screen** check box so that the system goes into full screen mode when motion or an alarm trigger is detected.
- **Post Recording**: Enter the post recording duration (the time the system continues to record after a motion event occurs).

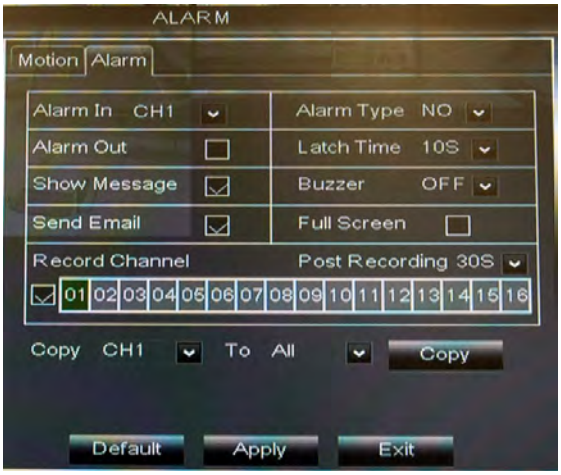
3 Click **Apply** to save your settings.

Configuring Alarm Settings

The Alarm settings menu allows you to configure how the system behaves when an external alarm device (not included) is triggered.

To configure the Alarm tab:

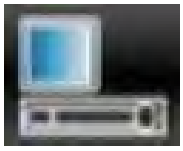
1 From the Alarm menu, click the **Alarm** tab.



2 Configure the following:

- **Alarm In:** Select the channel you wish to configure.
- **Alarm Type:** Select the alarm type of the device. Choose from N/O (normally open), N/C (normally closed).
- **Alarm Out:** Select the checkbox to enable the system's alarm block to trigger a connected external alarm.
- **Latch Time:** Enter the duration the alarm continues to trigger after the event ends.
- **Show Message:** Select the checkbox if you want the system to display a system message when an alarm triggers.
- **Buzzer:** Select the checkbox to enable the system to "beep" if an alarm triggers.
- **Send Email:** Select the checkbox if you want the system to send email notifications if an alarm triggers.
- **Post Recording:** Select the duration the system continues to record as an event after the alarm trigger ends. For example, if you select 30s (30 seconds), the system continues to record for 30 seconds after the alarm trigger ends.
- **Full Screen:** Select the Full Screen check box so that the system goes into full screen mode when motion or an alarm trigger is detected.

3 Click **Apply** to save your settings.



Device

The Device menu allows you to configure hard drive and PTZ settings and format a USB flash drive (not included).

- For details on connecting PTZ cameras (not included), see "Appendix B: Connecting a PTZ Camera" on page 106.

Configuring Hard Drive settings

To format the hard drive:

ATTENTION: Formatting the HDD erases **all data** on the hard disk. **This step cannot be undone.**

1 Select the **HDD** tab.

2 Click the checkbox under **Select** to choose the drive you wish to reformat.

3 Click **Format HDD**.

4 When the warning window appears, click **OK**. Wait for the system to format the hard drive.

To set the hard drive recording mode (loop recording or linear recording):

1 Select the **HDD** tab.

2 Select the checkbox beside the hard drive you wish to configure.

3 In the **Overwrite** drop-down menu, select **Auto** (recommended), or select the desired duration the hard drive should retain its data.

NOTE: If overwrite recording is enabled, the system's hard drive automatically re-writes the hard drive's oldest content (first in first out).

4 Click **Apply** to save your settings.

Formatting USB Flash Drives

ATTENTION: Formatting a USB flash drive erases **all data** on the drive. **This step cannot be undone.**

1 Insert a USB flash drive (not included) into one of the USB ports.

2 In the main menu, click **Device→HDD**.

3 Click **Format USB**, then click **OK**. Wait for formatting to complete.

System

The System tab allows you to configure the system time and user accounts.

- For instructions on how to set the system time, including how to setup automatic Daylight Savings Time adjustments or NTP, see "Setting the Date and Time" on page 20.

Changing Date Format

You can change the way the system displays the time (i.e. Month, Day, Year)

To change the date format:

1 Select the **General** tab.

2 In the **Date Format** drop-down menu, select the desired format. Choose from **MM/DD/YY** (Month, Day, Year), **YY/MM/DD** (Year, Month, Date), or **DD/MM/YY** (Day, Month, Year).

3 Click **Apply** to save your settings.

Changing Time Format

You can change the way the system displays the date and time format (i.e 6:00 pm or 18:00).

To change the time format:

1 Select the **General** tab.

2 In the **Time Format** drop-down menu, select **12 Hour** or **24 Hour**.

3 Click **Apply** to save your settings.

Changing the System Language

1 In the **Language** drop-down menu, select your desired system language.

2 Click **Apply** to save your settings.

3 Right-click until you exit the menu. Follow the on-screen instructions to restart your system.

Changing Video Output - NTSC & PAL

To change the video output:

1 In the **Video Format** drop-down menu, select **NTSC** or **PAL**.

2 Click **Apply** to save your settings.

Configuring Menu Time Out and Auto Logout

The Menu Time Out setting allows you to configure how long the system menu will remain on the screen during inactivity. If passwords are enabled, it also enables the Auto Logout, which allows the system to lock itself after the system is idle for the selected duration.

To configure Auto Logout:

1 Select the **General** tab. In the **Menu Time Out** drop-down menu, select the desired time before the system locks itself.

2 Click **Apply** to save your settings.

NOTE: You will need your system's user name and password to unlock the system.

Adding Users & Changing the Admin Password

- For details on changing admin and user passwords, see "Managing Passwords" on page 32.
- For details on creating User accounts, see "Adding Users" on page 33.

Viewing System Information

- Click the **Info** tab.

Advanced

The Advanced menu allows you to update system firmware, load system defaults.

Configuring the "Auto Reboot" feature

Auto Reboot allows the system to restart during a specified time and date. Restarting the system every so often ensures system stability.

To enable the Auto Reboot feature:

1 Select the **Maintain** tab.

2 Configure the following:

- **Auto Reboot:** Select **Enable** or **Disable** to activate or deactivate the Auto Reboot feature.
- **Reboot:** In the drop down menu, select how often the system restarts. Choose from **Every day**, **Every Week**, or **Every Month**. Enter the desired day and time you want the system to restart.

3 Click **Apply** to save your settings.

Upgrading the System Firmware

Firmware upgrades can provide improved functionality to your DVR. When firmware upgrades become available, you can download them for free from www.lorextechnology.com.

To upgrade the system firmware:

1. In your web browser, visit www.lorextechnology.com and search for the model number of your DVR (check the label underneath your DVR for the model number). Download the free firmware upgrade if one is available.
2. Extract the firmware into a blank USB flash drive. The firmware should be in a folder named **dvrupgrade**. Ensure that this is the only folder in the USB drive.
3. Insert the flash drive into one of the **USB** ports.
4. Right-click to open the Menu Bar and click the Main Menu button ( ).
5. Click **Advanced**.
6. Click **Firmware Update**.

Firmware Update

7. Follow the on-screen instructions to update the firmware. **Do not remove the USB flash drive or power off the DVR during the firmware update**. Wait for the system to reboot.

Restoring to Factory Default Settings

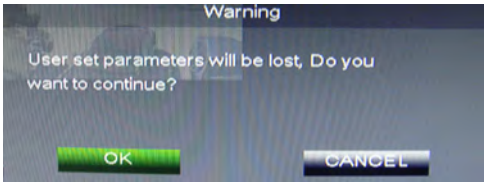
Restoring to factory default settings reverts any setting changes you have made to their original settings. This does not affect the recordings saved on the DVR. You can reset a single menu, or all menus.

To load system defaults:

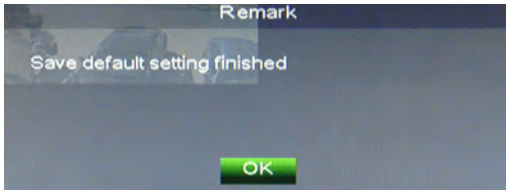
1. Right-click to open the Menu Bar and click the Main Menu button ( ).
2. Click **Advanced**. Then click **Load Default**.
3. Select the menus that you wish to restore to default settings, or click **All** to restore the entire system to default settings.

NOTE: It is recommended to leave the Network menu unchecked when restoring the system to factory defaults. If you restore the Network menu, you will need to redo remote connectivity setup to access your DVR over the Internet.

4. Click **Apply**.
5. When the warning window appears, click **OK** to restore your settings.



6 Click **OK** to return to the menu.



7 Right-click until you have exited all menus. The DVR prompts you to restart.

Restarting or Shutting Down the DVR

To restart or shut down the DVR:

1 Right-click to open the Menu Bar and click the Main Menu button ( ).

2 Click **Advanced**.

3 Click **Reboot** or **Shut Down**.

Reboot / Shut Down

4 Follow the on-screen instructions to restart or shut down your system.

Configuring System Warnings

The system can send out email notifications, or trigger a connected alarm device if it detects system abnormalities. For example, the system can send out a warning if the hard drive is low on storage.

To configure system warnings:

1 Click the **Events** tab.

2 Configure the following:

- **Event Type**: Select the event that triggers the system to send out a notification or alarm trigger. Choose from **Disk No Space** (low hard drive space), **Disk Error** (hard drive error), or **Video Loss**.
- **Enable**: Select **Enable** or **Disable** to activate or deactivate the system from sending out notifications.
- **Alarm Out**: Select the checkbox to enable alarm out devices from triggering.
- **Show Message**: Select the checkbox for the system to display an error message when an event occurs.
- **Send Email**: Select the checkbox for the system to send out email notifications when a system error occurs. Note, email notifications must be configured.
- **Latch Time**: Select the delay duration in the drop-down menu.
- **Buzzer**: Select the buzzer (system beep) duration when the system detects a system error.

3 Click **Apply** to save your settings.

Saving Your System Configuration to a USB Flash Drive

The DVR allows you to save your current system configuration to a USB flash

drive (not included). This is useful if you want to backup your current settings.

NOTE: This function only saves settings created in system menus. It does not save or backup any video.

To save your system configuration to a USB flash drive (not included):

1. Insert a USB flash drive (not included) into one of the **USB** ports.
2. Right-click to open the Menu Bar and click **Main Menu (** **)**.
3. Click **Advanced** and select the **Maintain** tab.
4. Click **Save Settings**. Wait for the system to save your settings.

Click to save all system settings to a USB flash drive

Loading a System Configuration from a USB Flash Drive

1. Insert a USB flash drive (not included) that contains a saved configuration to a **USB** port. See above for details on how to save your DVR configuration.
2. Right-click to open the Menu Bar and click **Main Menu (** **)**.
3. Click **Advanced** and select the **Maintain** tab.
4. Click **Load Settings**. The DVR will load the saved settings from the USB flash drive and then restart.

Setting up your DVR for Remote Connectivity

The system features a built-in browser-based software that allows you to access your system remotely over your local area network (LAN) or over the Internet using Internet Explorer® (PC) or Safari® (Mac). There is also a client software for PC provided on the CD (see "Lorex Client 11: Client Software for PC" on page 67 for details).

Remote Viewing Client

For details on navigating the remote viewing interface, see "Remote Viewing Interface" on page 68.

System Requirements

Prior to using Lorex Web Client, make sure your system meets or exceeds the following system requirements:

Description	Requirement
CPU	Pentium® 4 or above
Operating System	Windows XP/Vista/7/8 Mac OSX 10.6.6 and above (Intel processors only)**
Memory	256 MB RAM or greater
Video	16 MB of video memory
Network (LAN)	10/100 BaseT Network
Network (WAN)	384 Kbps upstream* *High-speed Internet service is recommended when using DVR Netviewer.
Browser	Internet Explorer 7 or later (PC) / Safari 6.0 and above** (Mac)

NOTE: If a user connects to the system remotely, there may be slow performance when accessing the system locally. This is normal, and not a malfunction.

** For the latest compatibility list, check www.lorextechnology.com, as new software versions are released to the market.

Accessing your DVR within a local network (LAN)

You can connect to your DVR through Internet Explorer through the local area network (LAN). It is recommended to confirm connectivity over a local network before setting up your DVR for Internet connectivity.

NOTE: To complete the steps below, your computer must be on the same network as your DVR.

NOTE: Except where noted, the instructions below are the same for PC and Mac.

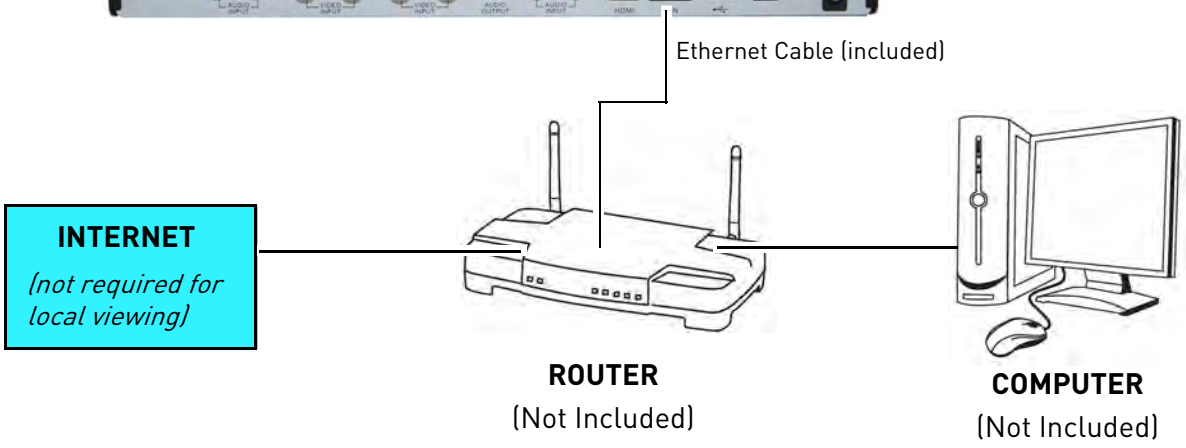
Step 1 of 3: Connect your DVR to the Local Area Network

1 Power off your DVR by turning the power switch to ●.

2 Connect an Ethernet cable (included) to the **LAN** port on the rear panel of the DVR. Connect the other end of the Ethernet cable to an empty LAN port (usually numbered 1~4) on your router.

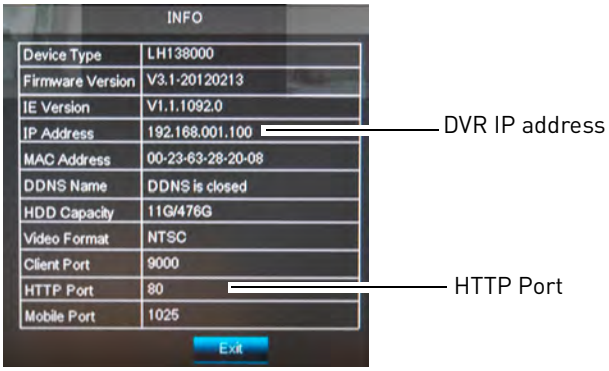
3 Turn the power switch to **I** to power the DVR back on.

8-channel model shown



Step 2 of 3: Obtain the DVR's Local IP Address and HTTP Port

1 Press the **PTZ/** ↵ button on the front panel of the DVR to open the System Information window.



2 Write down the **IP Address** and **HTTP Port** number of the DVR.

- A local IP looks something like this: 192.168.5.118. Note that single digit numbers appear as three digits. For example, "005" is the same as "5".
- Write down the port number beside HTTP Port.

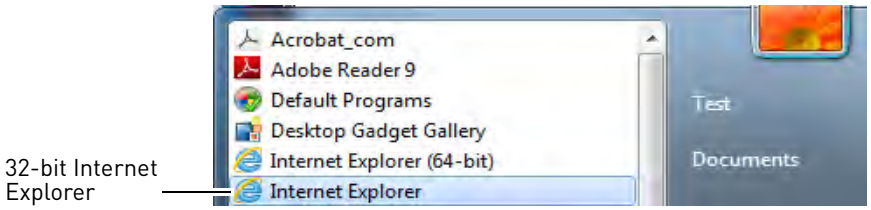
Step 3 of 3: Enter the DVR's Local IP Address into the Browser

Follow the steps below to confirm connectivity over a local network on a PC or Mac.

To connect using the DVR's local IP address on a PC:

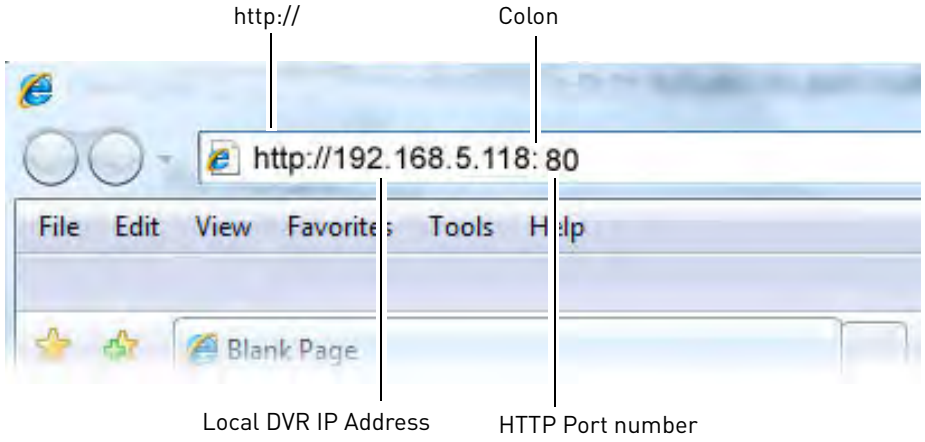
1 Open Internet Explorer.

NOTE: If you are connecting using Internet Explorer 9, you must use the 32-bit version. From the Start Menu, click **Internet Explorer**. Do not click Internet Explorer (64-bit).

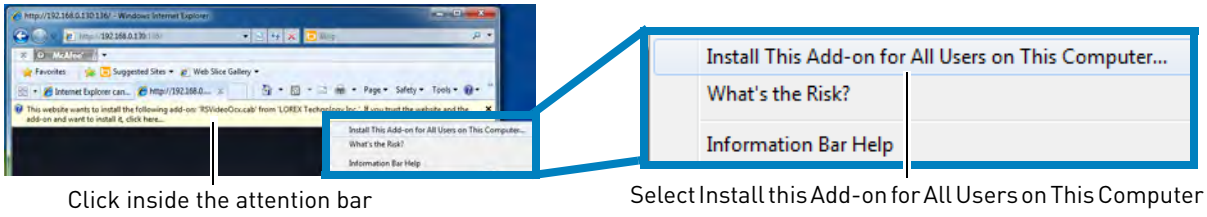


2 Enter **http://**, the **IP address of the DVR**, **colon**, and the **HTTP port number of the DVR** (e.g. http://192.168.5.118**:**80) into the address bar. You must include the HTTP port number of the DVR after the address.

Example (Connecting to a Local IP Address using Internet Explorer):



3 An attention bar prompts you to install ActiveX® plug-ins. You must install the ActiveX® plug-in to connect to your DVR. Click inside the attention bar, and select **Install this Add-on for All Users on This Computer** to install the plug-in.



- If you are connecting using Internet Explorer 9 or 10, the attention bar appears on the bottom of the screen. Click **Allow** to install the plug-in.

Attention Bar in Internet Explorer 9

Click Allow

4 Under **User Name** and **Password**, enter the DVR's username and password. By default, the username is **admin** and the password is left blank.

5 Click **Login** to log into the system.

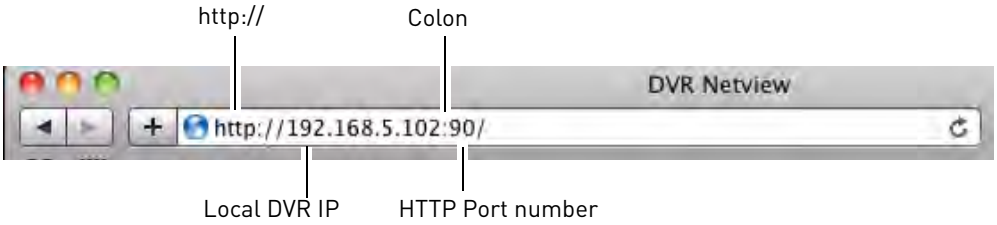
NOTE: If you are having difficulty logging into your system using Internet Explorer, it is recommended to use the Client Software provided on the CD or as a free download from www.lorextechnology.com. For instructions, see "Lorex Client 11: Client Software for PC" on page 67.

To connect to the DVR's local IP address on a Mac:

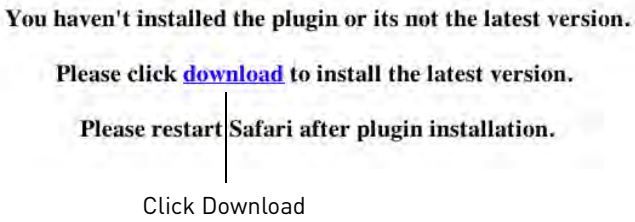
1 Open Safari.

2 Enter **http://**, the **IP address of the DVR**, **colon**, and the **HTTP port number of the DVR** (e.g. http://192.168.5.118**:**80) into the address bar. You must include the HTTP port number of the DVR after the address. A page appears to prompt you to install a plug-in.

Example (Connecting to a Local IP Address using Safari):

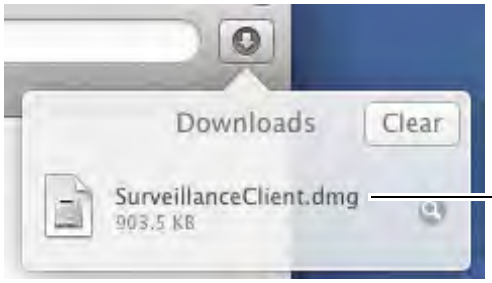


3 Click **Download** to download the plug-in for Safari.



Click Download

4 Click the downloads button ( ) on the top-right corner of Safari. Right-click **SurveillanceClient.dmg** in the downloads list and select **Open**. A web plugin folder appears.



5 Double-click **SurveillanceClient** and follow the on-screen instructions to install.

6 Quit Safari (right-click the Safari icon in the dock and select **Quit**) and then restart Safari.

7 Enter **http://**, the **IP address of the DVR**, **colon**, and the **HTTP port number of the DVR** (e.g. http://192.168.5.118**:**80) into the address bar, as shown above.

8 Enter the DVR username and password to log in to the system. By default, the username is **admin**, and the password is left blank.

Accessing your DVR Remotely over the Internet

Setting up remote connectivity allows you to view your DVR from any computer or compatible mobile device with Internet access.

NOTE: Except where noted, the instructions below are the same for PC and Mac.

To set up remote connectivity with your DVR, you must:

1 Port forward the HTTP, Client, and Mobile ports (default: **80, 9000, and 1025**) on your router to your DVR's IP address.
2 Create a DDNS account.
3 Enable DDNS on the DVR.
4 Test the remote connection by entering your DDNS address in a web browser.

Step 1 of 4: Port Forwarding

You **must** port forward the HTTP, Client, and Mobile ports (default: **80, 9000, and 1025**) on your router to your DVR's IP address before you can remotely connect to your system. There are several methods to port forward your router:

- Use the **Lorex Easy Connect Auto Port Forwarding Wizard** (PC only) to port forward the required ports (see CD for details). For instructions on how to use the Easy Connect Wizard, see the Easy Connect manual on the CD.

- Manually port forward the required ports on your router to your DVR's IP address by following your router manufacturer's instructions. For more information on port forwarding, see the reference guides on www.lorextechnology.com.

NOTE: If the above ports are not forwarded on your router, you will not be able to access your system remotely.

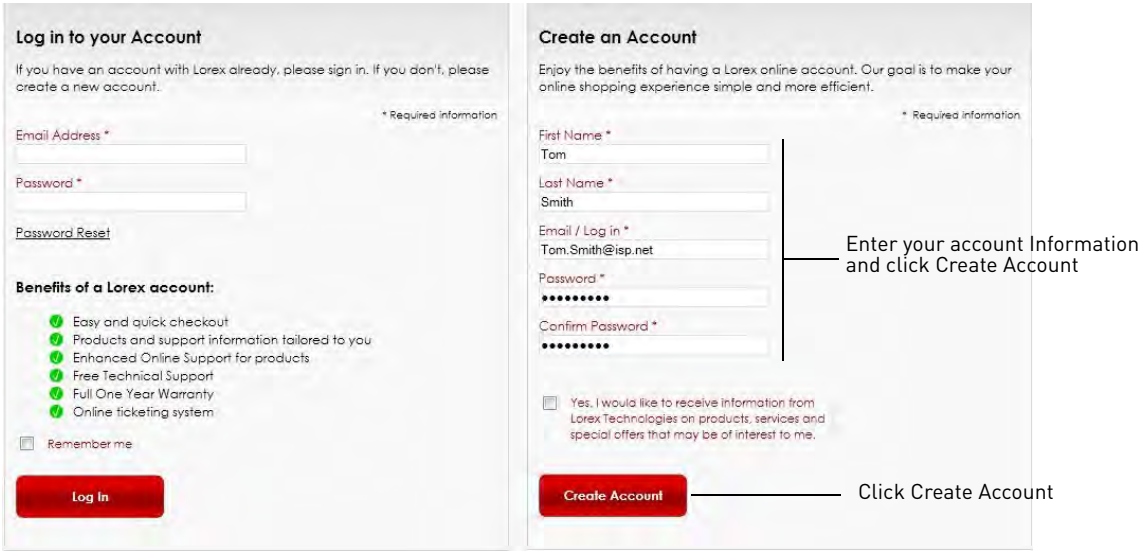
Step 2 of 4: Create a DDNS Account

Lorex offers a free DDNS service for use with your system. A DDNS account allows you to set up a web site address that points back to your local network. This allows you to connect to your system remotely. **You must create a DDNS account in the same network as your DVR.**

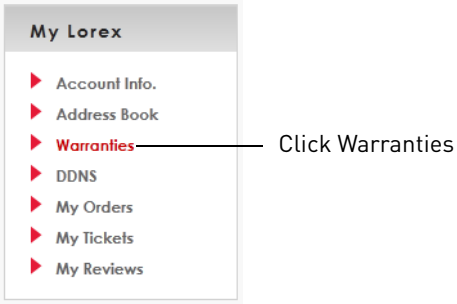
To setup your free Lorex DDNS account:

1 In your browser, go to http://www.lorexddns.net and click **Step 1**.

2 The My Lorex account login screen opens (if you are already logged in, skip to step 4). Create a new account or log into an existing account. To create a new account, fill in the required fields on the right and click **Create Account**.



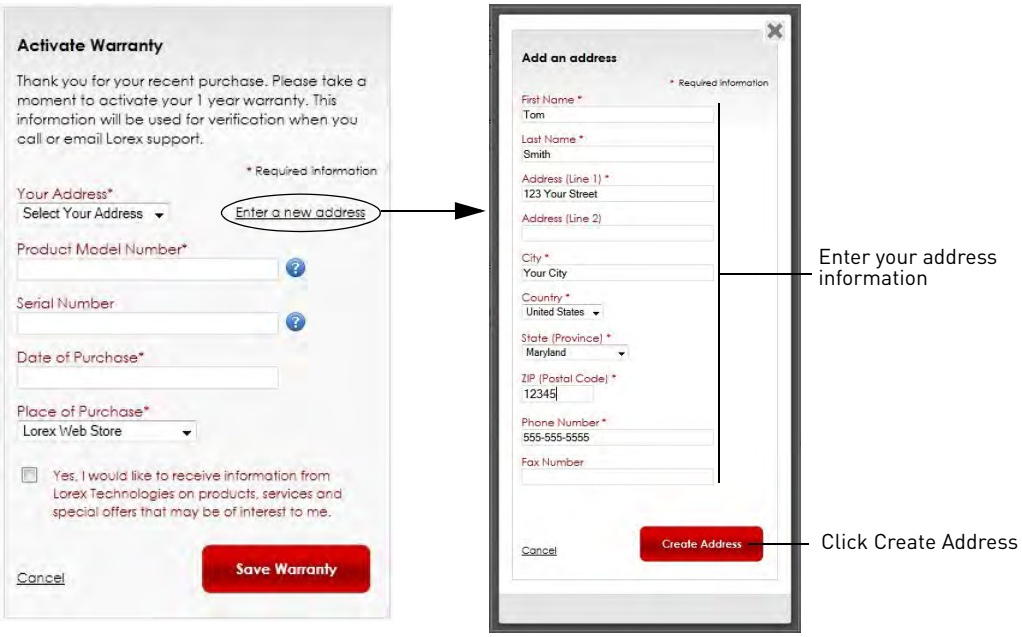
3 Click **Warranties** to register your product for warranty.



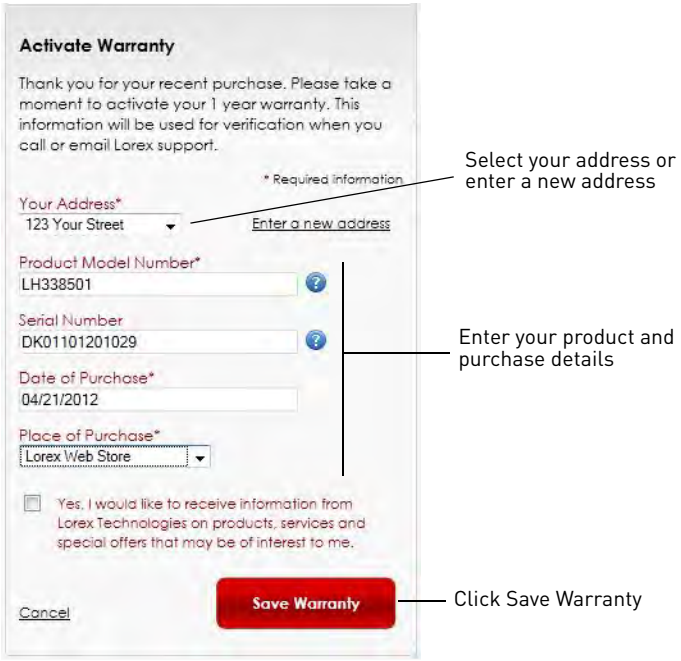
NOTE: Warranty registration is required to register for DDNS.

4 The Warranty page opens. Click **Activate Warranty** to register your product for warranty.

5 Under Your Address, select an address or click **Enter a New Address** to create a new address. Fill in your address information and click **Create Address**.

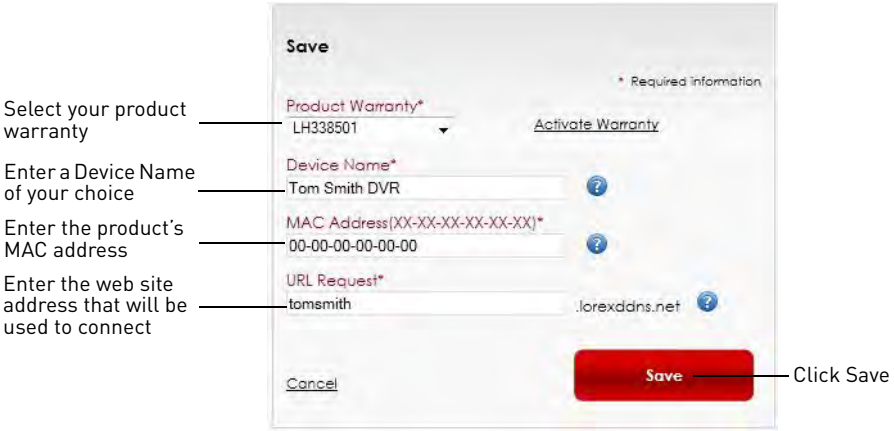


6 Fill in the warranty registration form with your product and purchase details. Check the sticker underneath your DVR for the Product Model Number and Serial Number. Click **Save Warranty**.

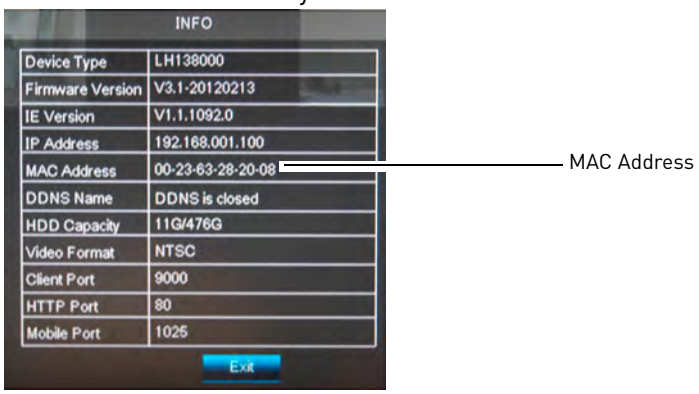


7 A page pops up to prompt you to register your product for Lorex DDNS. Click **Set Up a New DDNS**.

8 Configure the following:



- **Product Warranty:** Select the product warranty you created in the previous steps.
- **Device Name:** Enter a name for your device. You can enter your name, business name, or anything of your choice. This is used to identify this device in your list of activated DDNS accounts that appears anytime you visit the DDNS page.
- **MAC Address:** Enter the MAC address of your Lorex product. Press the **PTZ/** ↵ button on the front panel to find your MAC address. A MAC address is a permanent, unique 12-digit address used to identify a device on a network.



- **URL Request:** Enter the web site address that will be used to connect to your Lorex product. For example, if you enter *tomsmith*, the address to access your video will be *http://tomsmith.lorexddns.net*

9 Click **Save** to register your product for DDNS. A confirmation email will be sent to the email address used to register for My Lorex.
You will need this information to enable remote access to your system. Record your information below:

Domain name/URL Request: _

DDNS User Name: _

Device DDNS password: _

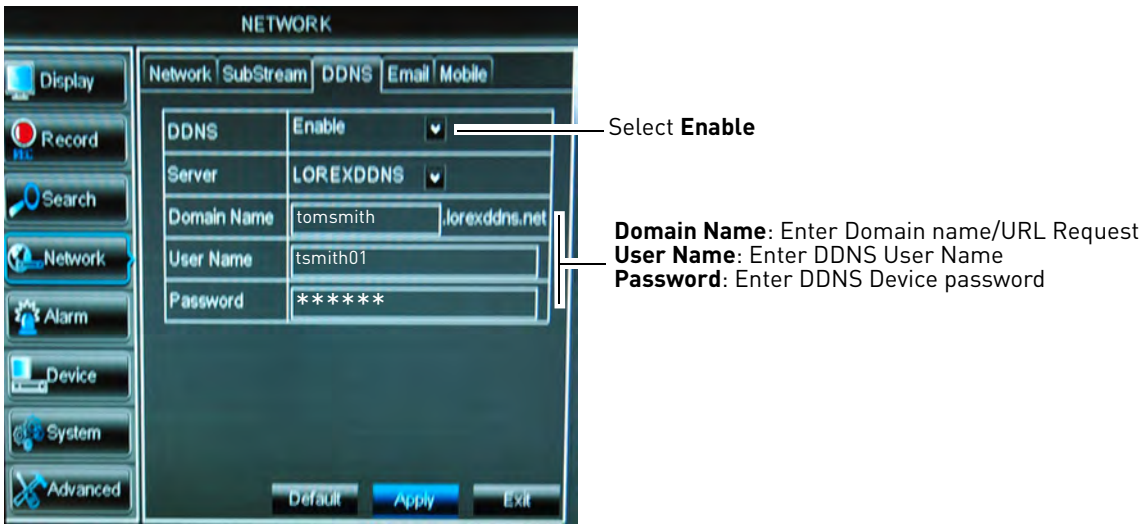
Step 3 of 4: Enable DDNS on the DVR

To enable DDNS in your DVR:

1 Right-click to open the Menu Bar and click the Main Menu button ( ).

2 Click **Network** and select the **DDNS** tab**.**

3 In the DDNS drop-down menu, select **Enable**. Beside Server, select **LOREXDDNS** (default).



Example of entering DDNS information in the DDNS setup menu

4 Under Domain Name, enter your **Domain name/URL Request** from the confirmation email that was sent after you created your DDNS account.

5 Under User Name, enter your **DDNS User Name** that was emailed to you after DDNS registration.

6 Under Password, enter your **DDNS Device password** that was emailed to you after DDNS registration.

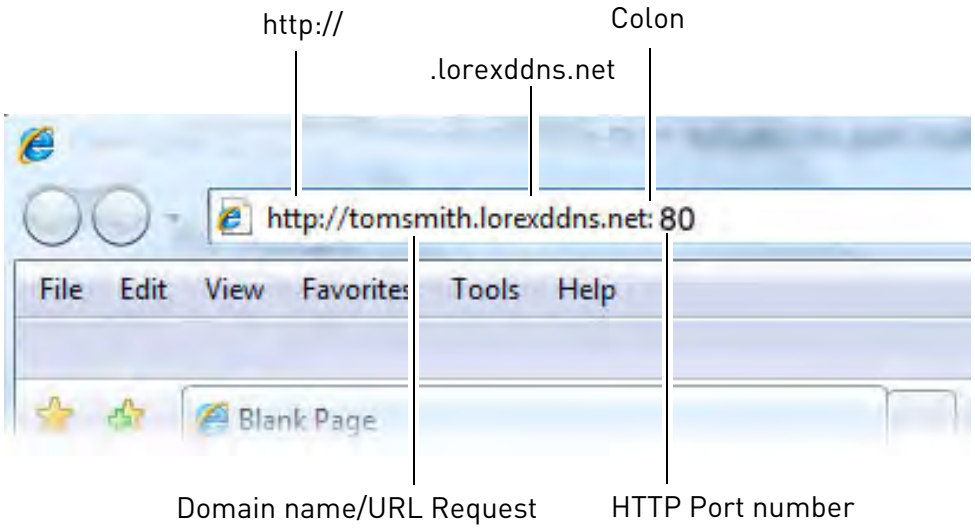
7 Click **Apply** to save your settings.

Step 4 of 4: Enter the DDNS Address into the Browser

NOTE: Please allow 10~15 minutes for the DDNS servers to update with your new DDNS address before attempting to connect.

To access your DVR remotely, enter the DDNS address that you created earlier into Internet Explorer (PC) or Safari (Mac). The DDNS address must include **http://** , the name of your DDNS URL, followed by **.lorexddns.net**, **a colon**, and then the **HTTP port number of your DVR**.

For example:



Example of a DDNS address

http://tomsmith.lorexddns.net:80

DDNS Domain name created by you

Colon

Web Server Port number

Once you have entered your DDNS address into Internet Explorer or Safari, enter the DVR user name and password at the login screen and click **Login**.

NOTE: To log in remotely, the default user name is **admin.** The password is left blank.

NOTE: If you are having difficulty logging into your system using Internet Explorer, it is recommended to use the Client Software provided on the CD or as a free download from www.lorextechnology.com. For instructions, see "Lorex Client 11: Client Software for PC" on page 67.

Lorex Client 11: Client Software for PC

Lorex Client 11 is a client software for PC that allows you to connect to your DVR on a PC and view your cameras from anywhere in the world.

NOTE: Before you can connect to your DVR over the Internet, you must complete port forwarding and DDNS setup. For details, see steps 1, 2, and 3 under "Accessing your DVR Remotely over the Internet" on page 60.

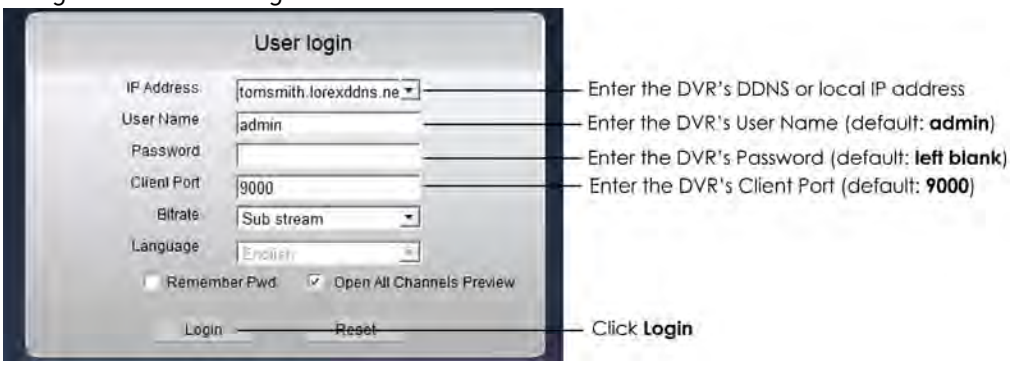
Connecting to your DVR using Lorex Client 11

1 Insert the software CD that comes included with the system. Open the CD and click **DVR Software→Lorex Client Software - PC**. Follow the on-screen instructions to install Lorex Client 11.

- **OR**, download the **Client Software for PC** from www.lorextechnology.com.

2 Once installation is finished, double-click the **Lorex Client 11 icon (** **)** from the desktop. The DVR login screen appears.

3 Configure the following:



- **IP Address:** Enter the **DDNS address or local IP address of your DVR**.
  - The DDNS address must include the **URL Request** you created when you registered for DDNS, followed by **.lorexddns.net**. For example, if your URL request is *tomsmith*, enter *tomsmith.lorexddns.net*.
  - The DVR's local IP address can be obtained by pressing ↵ on the front panel or right-clicking and then clicking the **Main Menu button (** **) →System→Info** (an example of a local IP address is *192.168.5.11*).
- **User Name:** Enter the DVR's username. The default user name is **admin**.
- **Password:** Enter the DVR's password. By default, the password is **left blank**.
- **Client:** Enter the Client Port number of your DVR. By default, this is **9000**.

4 Click **Login** to access your DVR. Lorex Client 11 connects to your DVR and streams live video from your cameras. The interface for Lorex Client 11 is identical to the web client interface used when you connect to your DVR using Internet Explorer. For details, see "Remote Viewing Interface" on page 68.

Remote Viewing Interface

Upon login, the Live tab opens. The Remote Viewing interface is the same on PC or Mac.

1 **Navigation Tabs**: Allows you to access the following tabs:
- **Live**: Watch live video.
- **Playback**: View saved video footage.
- **Remote Setting**: Configure system and networking options.
- **Local setting**: Configure where local files are stored on your hard drive.
- **Logout**: Exits remote viewing.

2 **Active Channel List**: Displays channels that are currently live.

3 **Viewing options**:

- : Click to open all connected channels.
- : Click to close all connected channels. Note that the system continues to record when you close channels remotely.
- : Previous page.
- : Next page.
- : Click to open the selected channel in full screen view.
- : Click to select the desired split-screen viewing options.

4 **Split screen viewing**: Click the desired viewing mode.

5 **Mute**: Click to mute audio.

6 **Main Screen**: Main display screen for live viewing and playback. You can also drag the screens to any desired position.

7 **PTZ Controls**: PTZ (Pan, Tilt, Zoom) control for connected PTZ cameras (not included).

Logging into the System

Log in to your system to begin remotely monitoring the system.

To log in to the DVR:

1 In the **User Name** field, enter **admin.**

2 In the **Password** field, leave the entry blank (default).

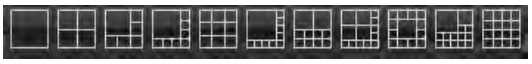
NOTE: By default, the user name is **admin**. The password is left blank.

3 Click **Login** to connect to the system.

Changing Viewing Modes

You can change the number of channels that the system displays simultaneously (i.e. Split-screen Mode, Single-channel Mode, etc.).

To change the DVR's viewing mode:

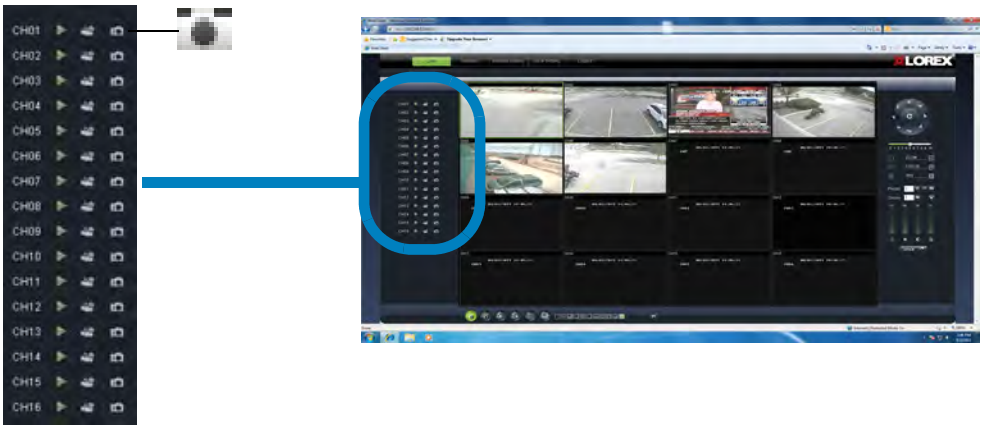
- Click one of the following:  .
  - If the controls are not shown, click .

Taking Screen Shots

The system can take screen shots of a selected channel during live view.

To take a screen shot of a channel:

1 Click beside the desired channel to capture an image.



2 A pop-up window opens on the bottom left corner of the window. Click **Preview** to view the image or **Folder** to show the image in the save folder.

If you receive an error taking a screen shot:

You may receive an error when taking a screen capture. This is caused by an Internet Explorer security setting.

To reduce the security setting in Internet Explorer:

1 Click on **Tools→Internet Options**. (In IE9, click the gear icon on the top-right corner).

2 Click the **Security** tab.

3 De-select **Enable Protected Mode**.

4 Click **Apply** to save your settings.

5 Refresh Internet Explorer.

Recording Video

You can record video footage directly onto your local hard drive. Once the video is in your hard drive, you can back up the video footage onto recordable media such as USB memory keys and blank CD/DVD media.

To record video:

1 Click next to the channel that you wish to capture video from.The video will record to the default save directory.

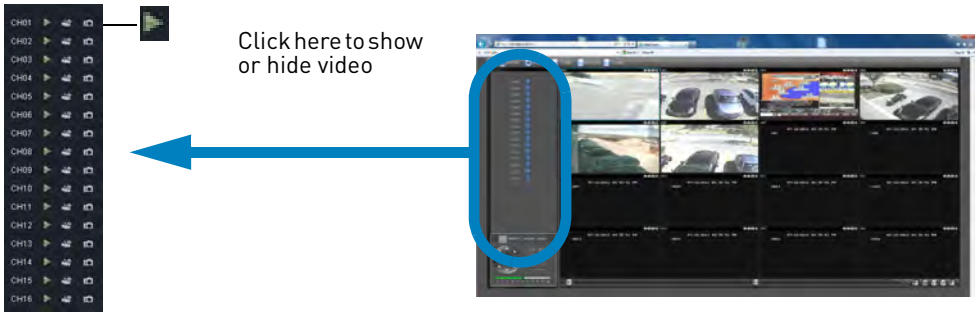
2 Click to stop video recording.

Showing / Hiding Channels

The Active Channel List is a convenient way to show / hide the cameras that display in the main viewing window.

To show or hide video in the main video window:

1 Click beside the channel number to show a channel. Click again to hide the channel.



Adjusting Sub-menu Options

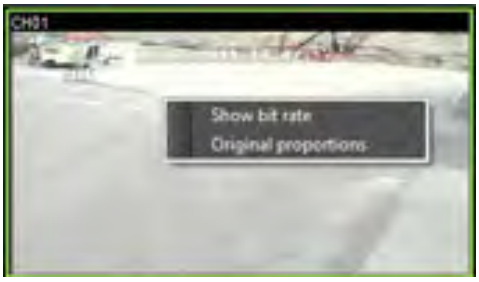
The sub-menu option gives you quick access functions such as viewing video bit rate, and viewing video in its original aspect ratio.

To open the sub-menu:

1 Right-click on a desired channel. A sub-menu opens.

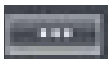
2 Click on one of the following:

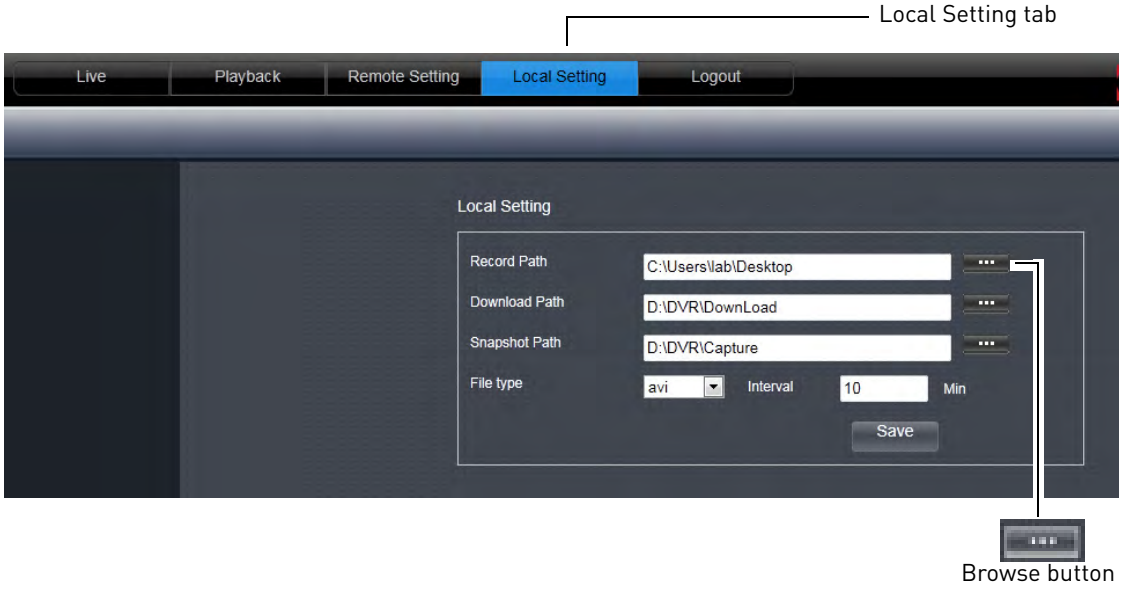
- **Show Bit rate**: Displays video bit rate.
- **Original Proportions**: Displays live video in its original proportions.



Changing the Save Directory of Screenshots or Recorded Video

1 Click the **Local Setting** tab.

2 Click  beside the desired category to browse for a save directory.



3 Select the desired save directory, and then click **OK**.

4 Click **Save** to save your changes.

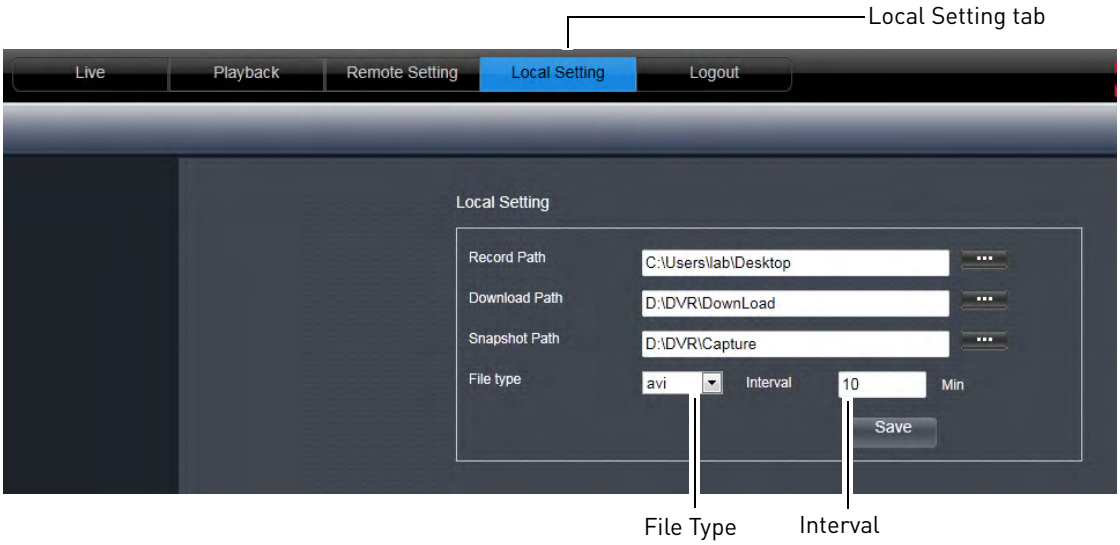
Changing the Format of Recorded Video (PC Only)

You can change the format of recorded video saved using Remote Surveillance. This allows you to directly backup footage from your DVR as an .avi file. This does not affect the format of video files that are backed up locally on the DVR (i.e. using a USB flash drive).

NOTE: This feature is not available via Mac.

1 Click the **Local Setting** tab.

2 Under **File Type**, select the file format you would like to use when saving video (**264** or **avi**).



3 (Optional) Under **Interval**, select the maximum length (in minutes) for video saved on the remote computer.

4 Click **Save** to save your changes.

Configuring PTZ Settings

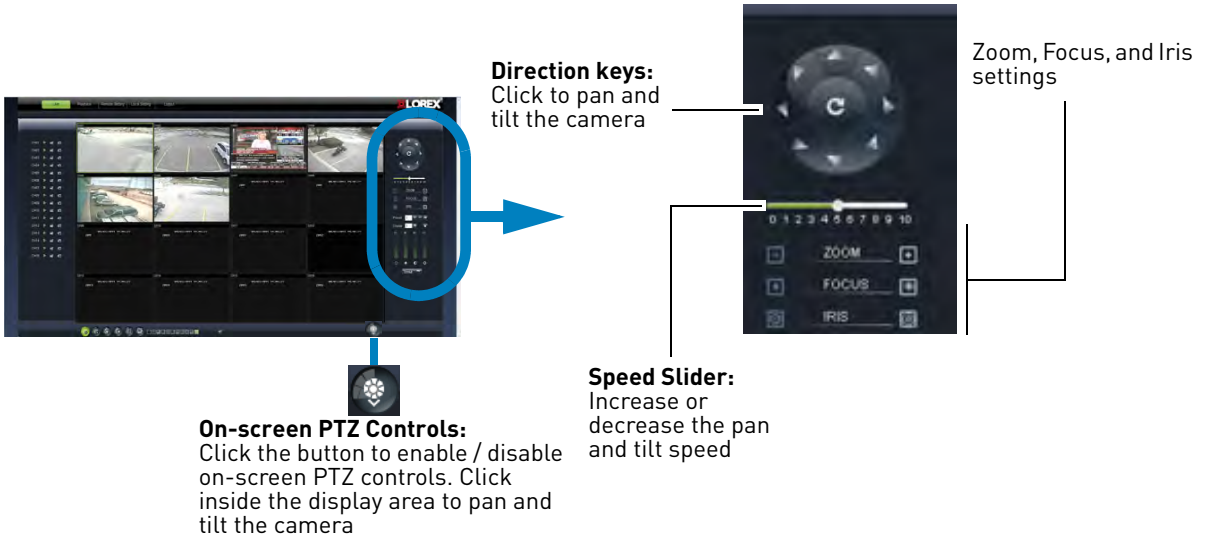
The system supports remote PTZ controls for compatible PTZ cameras (not included).

- For details on connecting PTZ cameras to your system, see "Appendix B: Connecting a PTZ Camera" on page 106.

To control the PTZ settings on the DVR:

1 From the Live tab, double-click to select the channel the PTZ camera is connected to.

2 Use the PTZ control panel to control the pan, tilt, zoom, focus, and iris control of the camera.

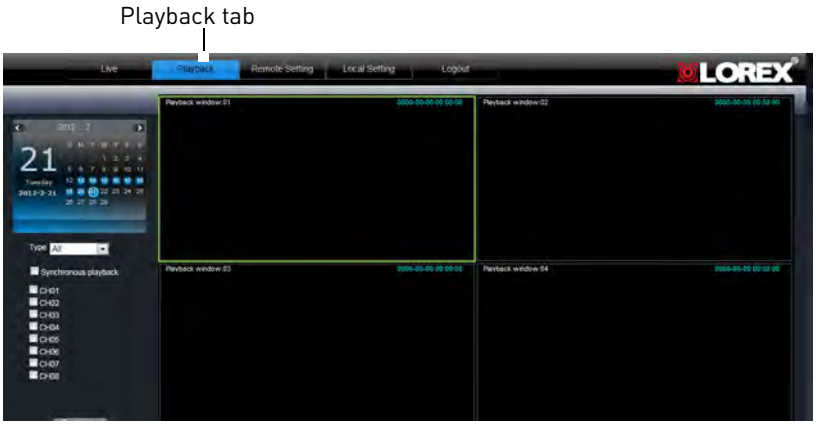


Video Playback

Video playback allows you to watch video that has been saved in the DVR's hard drive.

To playback video:

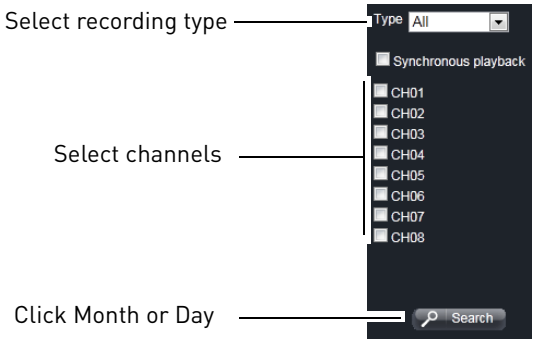
1 Click the **Playback** tab.



2 In the calendar window, click the desired month, year, and date.

3 Under the **Type** drop-down menu, select the desired recording type you wish to search for (Continuous, Alarm, or All).

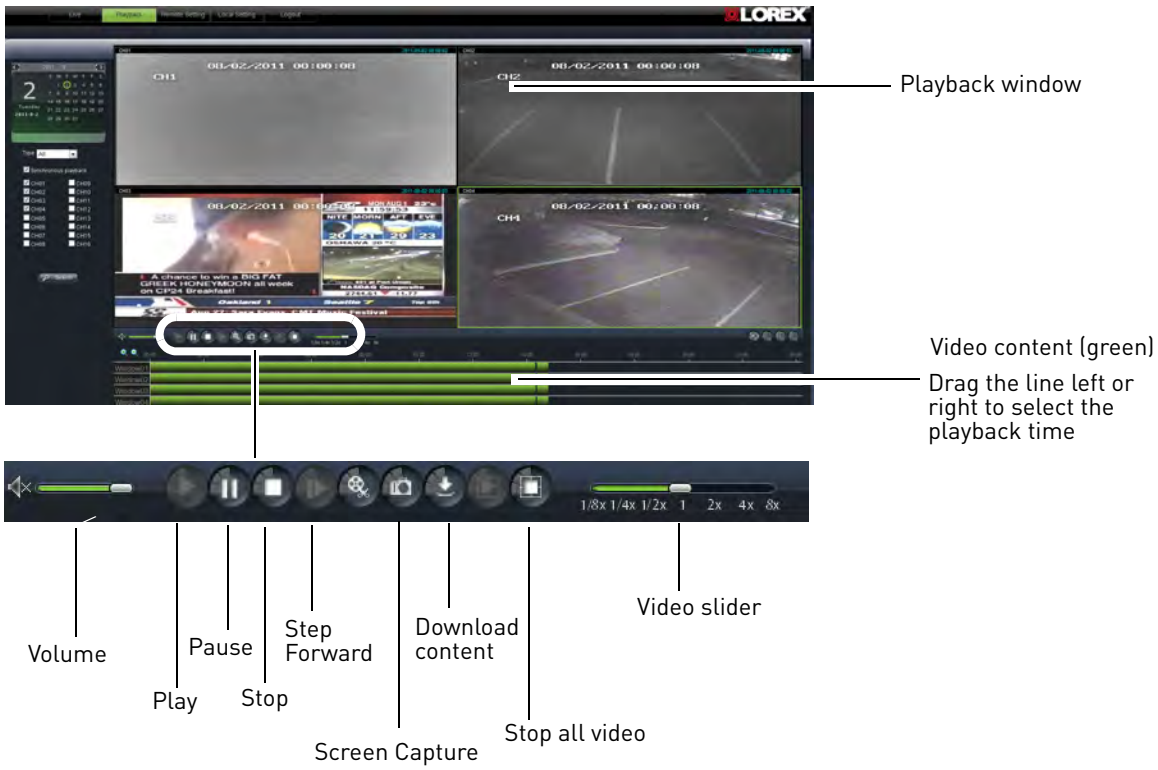
4 Select the channels you wish to search. Check **Synchronous playback** to play all selected channels at the same time.



5 Click the **Search** button.

6 Click **Play** to begin playback.

Video Playback Controls



- **Step Forward**: Plays video frame by frame. Click the Step Forward button to advance the video by 1 frame.
- **Video Slider**: Drag the slider to control the playback speed.
- **Download Content**: Allows you to download recorded videos to your computer hard drive. To download video, click the channel you want to back up and click the Download content button. A list of files appears. Select the files you want to back up and click **Start Download**.

Configuring Display Settings

1 Click the **Remote Setting** tab, and then click **Display→Live.**

2 Configure the following:

- **Channel**: Select the channel you want to modify.
- **Name**: Enter the channel name if you want to re-name the channel
- **Position**: Select the position of where the title appears in the channel.
- **Covert**: **Enable** or **Disable** covert recording. Covert recording will hide the channel on the DVR's local display. You will see be able to see the channel when you log in remotely.
- **Show Time**: Select **Enable** or **Disable** to show or hide the time on the DVR's local display.
- **Record Time**: Select **Enable** or **Disable** to show or hide the record time on the remote display.

3 Click **Save** to apply your settings.

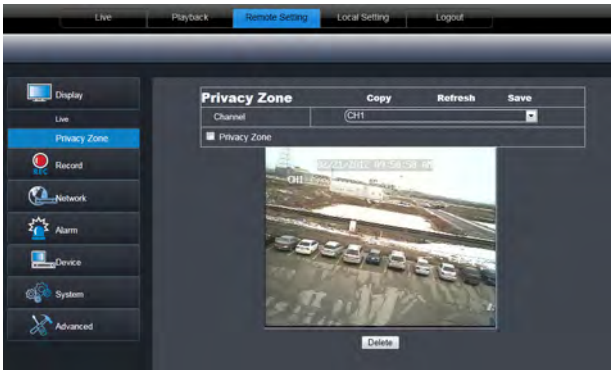
Configuring Privacy Zone Settings

ATTENTION: Areas covered by privacy zones are not visible in recordings.

You can blank out a certain portion of the channel with a black box.

To configure a privacy zone:

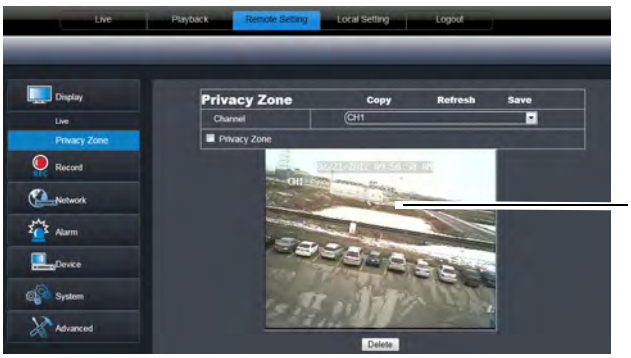
1 Click the **Remote Setting** tab, and then click **Display→Privacy Zone**.



2 In the **Channel** drop-down menu, select the channel you wish to configure.

3 Select the **Privacy Zone** checkbox to enable privacy masking.

4 Drag your mouse cursor over the areas you wish to black out. A red box indicates the area that is masked (blocked out).



- To remove a privacy area, click on the red box, then click the **Delete** button.

5 Click **Save** to apply your settings.

Configuring Recording Parameters

To configure system recording parameters:

1 Click the **Remote Setting** tab, and then click **Record→Rec Parameters.**

2 Configure the following:

- **Channel**: Select the channel you wish to configure.
- **Record**: Select Enable or Disable to start or stop system recording.
- **Pack Duration**: Select the duration of each saved file on the system. For example, if you select 15 minutes, then every file will contain 15 minutes of footage.
- **Pre-record**: Select whether to enable or disable pre-recording.

3 Click **Save** to apply your settings.

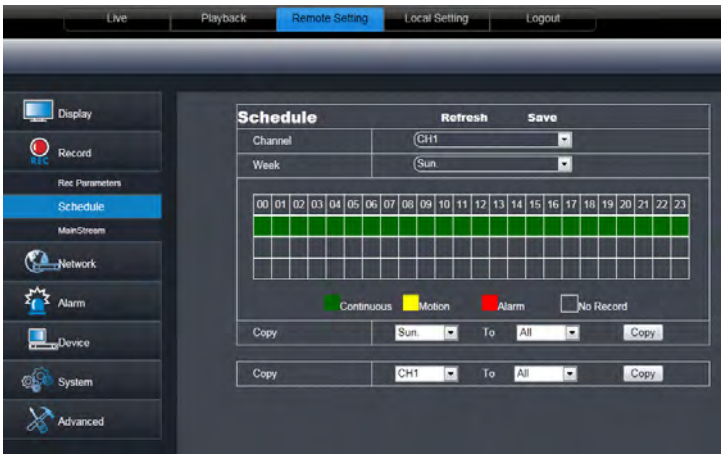
Configuring the Recording Schedule

To configure the recording schedule:

1 Click the **Remote Setting** tab, and then click **Record→Schedule.**

2 Configure the following:

- **Channel** drop-down menu: Select the channel you wish to configure.
- **Week:** Select the day of the week you would like to apply the settings to.



The recording schedule is arranged as a grid. Each row represents a recording type (Continuous, Motion, and Alarm), and each box represents an hour.

3 Click the recording grid, and select the type and duration of recording.

4 (Optional) Use the top **Copy** and **Copy To** drop-down to copy the recording schedule to a specific day or all days. Click **Copy** to copy the schedule.

5 (Optional) Use the bottom **Copy** and **Copy To** drop-down to copy the recording schedule to a specific channel or all channels. Click **Copy** to copy the schedule.

6 Click **Save** to apply your settings.

Configuring System Recording Quality

1 Click the **Remote Setting** tab, and click **Record→MainStream**.

2 Under **Resolution Mode**, select **D1** or **960H**. If you do not have 960H-compatible cameras, it is recommended to select D1, as D1 will provide a higher number of total frames per second (FPS) for recording. If you change the Resolution Mode setting, the system will restart once you save your changes.

3 Configure the following:

- **Channel:** Select the channel you wish to apply the settings to.
- **Resolution**: Select the desired recording resolution.
- **FPS (Framerate)**: Select the desired recording frame rate. Note that higher frame rates require greater bandwidth consumption during remote viewing.
- **Audio**: Select whether you want the system to record audio (audio cameras required, not included).

4 Click **Save** to apply your settings.

Configuring Basic Network Settings

The basic network menu allows you to configure the network protocol type (DHCP or Static), UPnP and mobile phone login information.

To configure basic network settings:

1 Click the **Remote Setting** tab, and click **Network.**

2 Configure the following under Basic Configuration:

- **Type**: Select between **DHCP** or **Static**. If you select Static, you can edit the IP address, Subnet Mask, Gateway, and DNS settings.
- **Auto Port Forwarding**: Select **Enable** or **Disable** to enable or disable the Auto Port Forwarding feature.

3 Click **Save** to apply your settings.

Configuring the System Substream

You can adjust the data streaming rate (also called the SubStream) when you connect to the system remotely. If you want to conserve bandwidth, select a lower frame rate and bitrate.

NOTE: Setting your system to stream with a lower frame and bitrate may cause the video to appear choppy or slow.

To configure the system's substream:

1 Click the **Remote Setting** tab, and click **Network→SubStream**.

2 Configure the Substream settings:

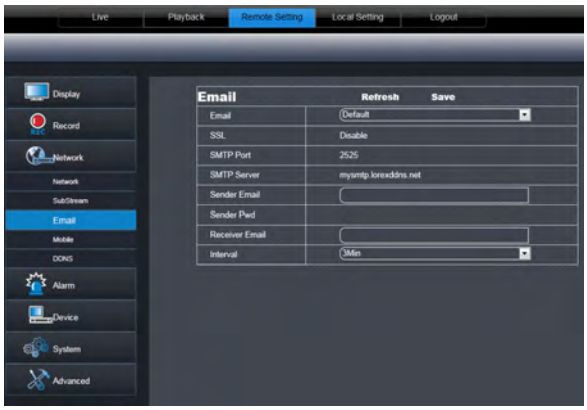
- **Channel**: Select the channel you wish to apply the settings to.
- **Resolution**: Select the desired recording resolution.
- **FPS (Framerate)**: Select the desired recording frame rate. Note that higher frame rates require greater bandwidth consumption during remote viewing.
- **Bit Rate**: Select the desired video bit rate.
- **Audio**: Select whether you want the system to record audio (audio cameras required, not included).

3 Click **Save** to apply your settings.

Configuring Email Notification Settings

To configure email notification settings:

1 Click the **Remote Setting** tab, and click **Network→ Email**.



2 In the Email drop-down menu, select **Default** to use the default Lorex email server (recommended) or select **Custom** to use your own custom SMTP email server.

If you want to use Lorex's email server (recommended):

1 In the **Sender Email** field, enter the email address of the sender. This can be any email address of your choice.

2 In the **Receiver Email** field, enter the email address you want the DVR to send alarm notifications to.

3 In the **Interval** drop-down menu, enter the duration the DVR must wait before sending out a new notification.

For example, if you select a 3 minute interval, the DVR will send out email notifications every 3 minutes until the DVR stops detecting motion / alarm. The DVR will only send out notifications when it detects motion/alarm triggers.

4 Click **Save** to save your settings.

If you select "Enable", and want to use your own email server:

1 Configure the following:

- **SSL**: Select **ON/OFF** to enable/disable Secure Socket Layer protocol.
- **SMTP Port**: Enter your SMTP address.
- **SMTP Server**: Enter your SMTP Server.
- **Sender Email**: Enter the sender email address. This can be any address of your choice.
- **Sender Password**: Enter your email server's password.
- **Receiver Email:** Enter the recipient's email address.
- **Interval:** Enter the interval the DVR waits before sending a new email notification.

2 Click **Save** to save your settings.

Changing the Mobile User Name and Password

You can change the User Name and Password used to connect to the system with a mobile device.

To change the mobile user name and password:

1 Click the **Remote Setting** tab, and click **Network→Mobile**.

2 Under **User Name**, enter the desired mobile user name (default: **admin**).

3 Under **Password**, enter the desired mobile password (default: **0000**).

NOTE: The user name and password applies only to mobile devices connecting to the system.

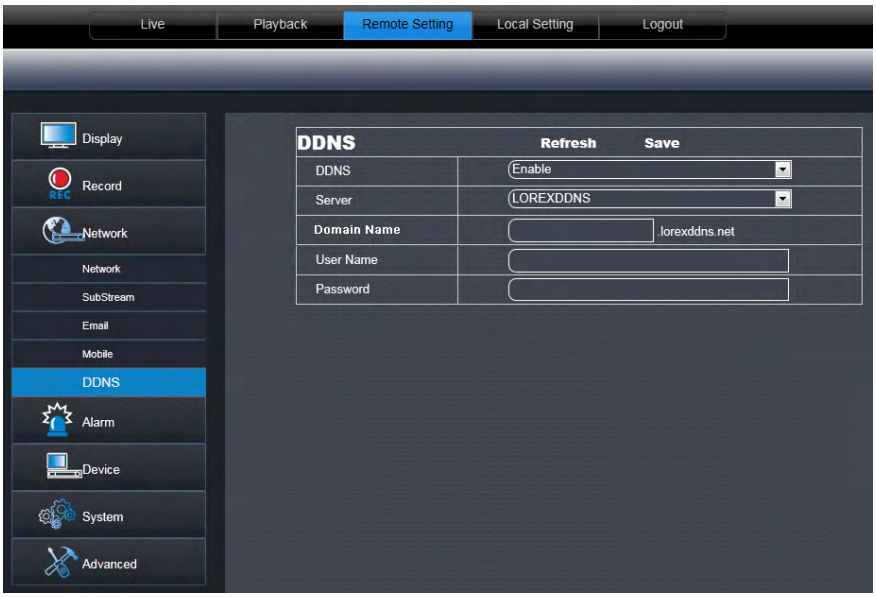
4 Click **Save** to apply your settings.

NOTE: The DVR may reboot after the settings are changed.

Configuring DDNS Settings

To configure DDNS settings:

1 Click the **Remote Setting** tab, and click **DDNS.**



2 Configure the following:

- **DDNS**: Select **Enable** or **Disable**.
- In the **Server** drop-down menu, select **LOREXDDNS**.
- **Domain Name**: Enter your **Domain name/URL Request** from the confirmation email that was sent after you created your DDNS account.
- **User name**: Enter your **DDNS User Name** that was emailed to you after DDNS registration.
- **Password**: Enter your **DDNS Device password** that was emailed to you after DDNS registration.

3 Click **Save** to apply your settings.

Configuring Motion Detection Settings

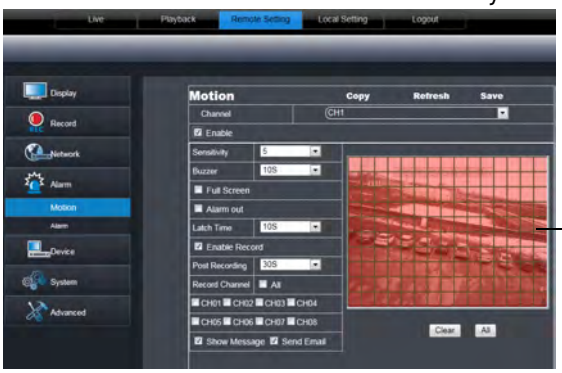
To configure motion settings:

1 Click the **Remote Setting**, and click **Alarm→Motion.**

2 Configure the following motion recording parameters:

- **Channel**: Select the channel you wish to apply the settings to.
- **Enable**: Select this checkbox to enable motion recording.
- **Sensitivity**: Select the desired motion detection sensitivity. The greater the value, the greater the motion sensitivity.

- **Buzzer**: Select **OFF** to disable the buzzer when the system detects a motion event or select the duration of the buzzer after the system detects a motion event.



Click and drag to configure motion detection areas
Red: Motion detection enabled
Clear: Motion detection disabled

- **Alarm Out**: Select the checkbox to trigger connected alarm devices.
- **Full Screen**: Select the checkbox so that the channel goes into full screen mode when motion is detected.
- **Enable Record**: Select to enable system recording when motion is detected.
- **Post Recording**: Select the post-recording time after a motion event occurs.
- **Record Channel**: Select the channels that should record during a motion event.
- **Show Message**: Select the checkbox to enable the system to display a warning message during a motion event.
- **Send Email**: Select the checkbox for the system to send a email notification during a motion event.

3 Drag your mouse cursor in the window to select the desired area to monitor the channel for motion.

4 Click **Save** to apply your settings.

Configuring your System to "Beep" During Motion

You can set your system to "beep" during motion. This is useful to notify you if someone enters or exits an area.

To configure the system to "beep" during motion:

1 Click the **Remote Setting** tab, and click **Alarm→Motion**.

2 In the **Channel** drop-down menu, select the channel you wish to configure.

3 Select the **Enable** checkbox.

4 Beside the **Buzzer** drop-down menu, select the "beep" duration or select **OFF** to disable the "beep."

5 In the video window, select the area you wish to monitor for motion.

6 Click **Save** to apply your settings.

Result: The system beeps when it detects motion, and a green "M" icon appears. The green "M" icon indicates that the system is only detecting motion, but not recording. To have the system record motion events, enable motion recording in the recording calendar (**Remote Setting tab→Record→Schedule**).

Configuring Alarm Notifications

Configure the settings for alarm devices (not included).

To configure alarm notifications:

1 Click the **Remote Setting** tab, and click **Alarm→Alarm.**

2 Configure the following:

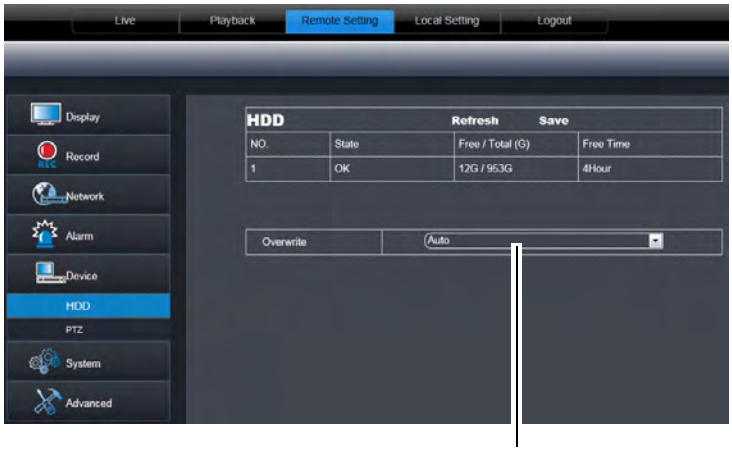
- **Alarm In**: Select the channel that you wish to configure.
- **Alarm Type**: Select the alarm type **N/O** (normally open), **N/C** (normally closed), or select **OFF**.
- **Buzzer**: Select the "beep" duration when an event occurs.
- **Latch Time**: Select the desired latch time when an alarm triggers.
- **Show Message**: Select the checkbox so that the system displays a warning message during an alarm recording.
- **Send email**: Select the checkbox for the system to send out email alerts during alarm recording.
- **Full Screen**: Select the checkbox to enable the system to go into Full-screen View when an alarm triggers.
- **Alarm out**: Select the checkbox to enable alarm out devices to activate.
- **Enable Record:** Select the checkbox to enable system recording when an alarm triggers.
- **Post Recording**: Select the desired post recording time after an alarm triggers.
- **Record Channel**: Select the channels that the system should record during an alarm trigger.

3 Click **Save** to apply your settings.

Configuring Hard Drive Recording Mode

To configure the hard drive recording mode:

1 Click the **Remote Setting tab**, and click **Device→HDD**.



Overwrite drop-down menu

2 In the Overwrite drop-down menu, select **Auto** to enable overwrite mode. When overwrite is enabled, the system deletes the oldest footage (first in, first out) when the hard drive is full.

You can also select a desired amount of days or hours the system should retain data. For example, if you select 30 days, the hard drive will begin to overwrite itself after 30 days. Note that your hard drive must be large enough to store video for the selected duration.

3 Click **Save** to apply your settings.

Configuring PTZ Parameters

The system is capable of manipulating PTZ cameras (not included) that are connected to the system. Please note that you will need PTZ information from the PTZ camera manufacturer's users guide. For details on connecting a PTZ camera to your system, see "Appendix B: Connecting a PTZ Camera" on page 106.

To configure PTZ settings:

1 Click the **Remote Setting** tab, and click **Device→PTZ.**

2 Configure the following:

- **Channel**: Select the channel that the PTZ camera connects to.
- **Protocol**: Select the protocol of the PTZ camera*.
- **Baud Rate**: Select the baud rate of the PTZ camera*.
- **Data Bit**: Select the data bit rate of the PTZ camera*.
- **Stop Bit**: Select the stop bit rate of the PTZ camera*.
- **Parity**: Select the parity settings of the PTZ camera*.
- **Cruise**: Select Enable or Disable*.
- **Address**: Select the address of the PTZ camera*.

*Consult the PTZ camera's instruction manual for protocol and configuration details

3 Click **Save** to apply your settings.

Configuring the System Time and Date

To configure the system time and date:

1 Click the **Remote Setting** tab, and click **System→General**.

2 Configure the system format and time:

- **System Time**: Enter the desired system time and date. An on-screen calendar appears when you click the date.
- **Date Format**: Select the desired format the date is displayed in.
- **Time Format**: Select between 12 hour or 24 hour time formats.

3 Select **DST** to enable daylight savings time, or **NTP** to sync the time with a NTP time server.

NOTE: Using the NTP feature requires that your DVR have a constant Internet connection.

Changing the System's Menu Time Out

To change the system's time out menu:

1 Click the **Remote Setting** tab, and click **System→General**.

2 In the **Menu Timeout** drop-down menu, select the duration the menu stays on screen before disappearing.

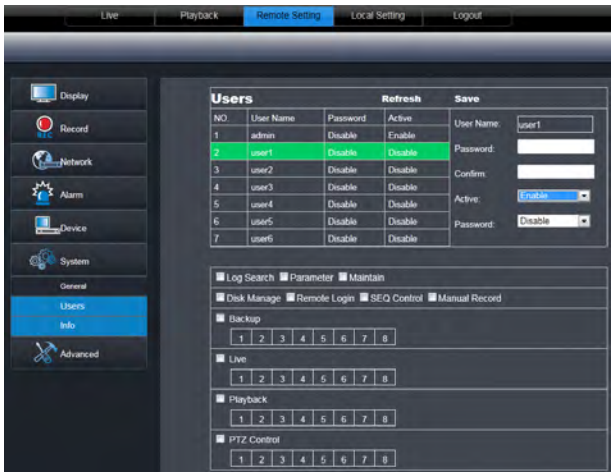
3 Click **Save** to apply your changes.

Configuring System User Accounts

You can add user accounts on the system.

To configure the user accounts menu:

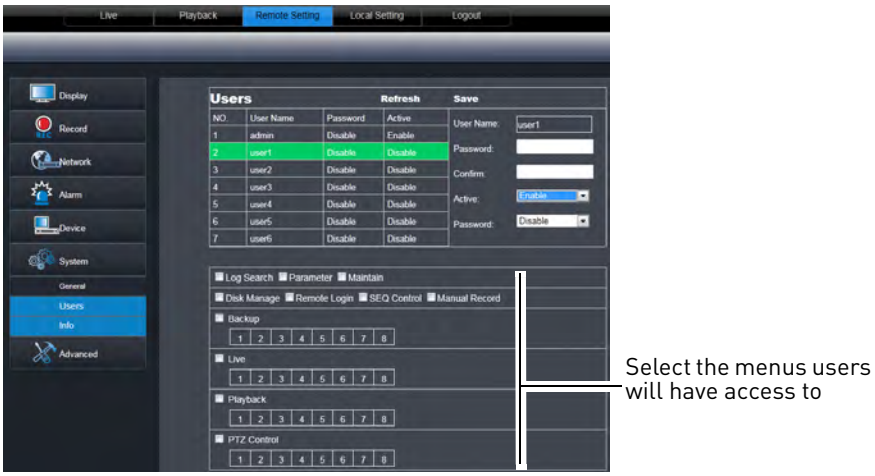
1 Click the **Remote Setting** tab, and click **System→Users**.



2 Configure the following:

- Click the desired user you wish to configure (i.e. user1).
- **User name**: Enter the desired user name.
- **Password**: Enter the desired user password.
- **Confirm**: Re-enter the user password.
- **Active**: Select **Enable** or **Disable** to activate or de-activate a user account.
- **Password**: Select **Enable** to require a user password when users log on.

3 Select the menus that the user will have access to.



4 Click **Save** to apply your settings.

Viewing System Information

To view system information:

1 Click the **Remote Setting** tab, and click **System→Info**.

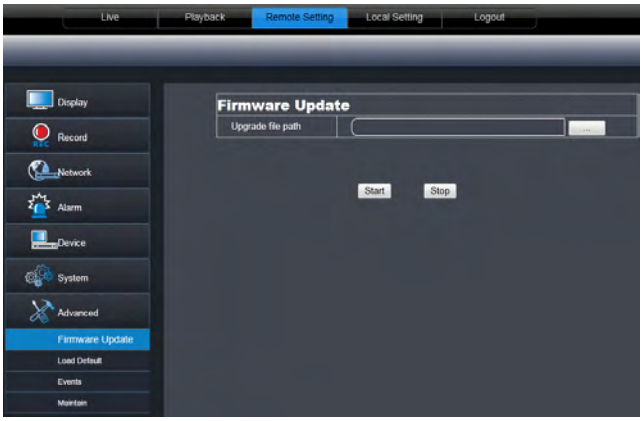
Upgrading System Firmware

To upgrade the system firmware, download the latest firmware from the system's product page at www.lorextechnology.com.

To upgrade the system firmware:

1 Download and extract the file to your computer's desktop.

2 Click the **Remote Setting tab**, and click **Advanced→Firmware upgrade.**



3 Beside **Upgrade File Path**, click the browse button ( ). Locate the firmware, and click **Open**.

4 Click **Start** to begin the firmware upgrade.

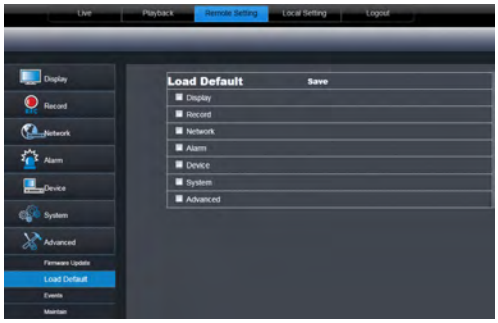
5 Follow the on-screen instructions to complete the firmware upgrade.

NOTE: Your system may have to restart after a firmware upgrade.

Restoring Default Settings

To restore the system's system defaults:

1 Click the **Remote Setting tab**, and click **Advanced→Load Default.**



2 Select the menus that you wish to restore to factory defaults.

3 Click **Save** to restore system defaults for the selected items.

Configuring Event Settings

The Event Settings tab allows you to configure how the system behaves when a system event occurs (e.g. hard drive error, video loss). This is useful if you want your DVR to notify you if there is a potential system problem.

To configure the system event settings:

1 Click the **Remote Setting tab**, and click **Advanced→Events.**

2 Configure the following:

- **Event Type**: Configure the type of event that triggers the system to send an alert.
- **Enable**: Select **Enable** to activate the system to notify you if an event occurs.
- **Buzzer**: Select **OFF** to enable/disable the system buzzer or select the duration of the system buzzer after an event occurs.
- **Show Message**: Select the checkbox to enable the system to display a warning message when an event occurs.
- **Send Email**: Select the checkbox to enable email notifications. Email notification must be enabled.
- **Alarm Out**: Enable or disable the alarm out panel.
- **Latch Time**: Configure the system latch time after an event occurs.

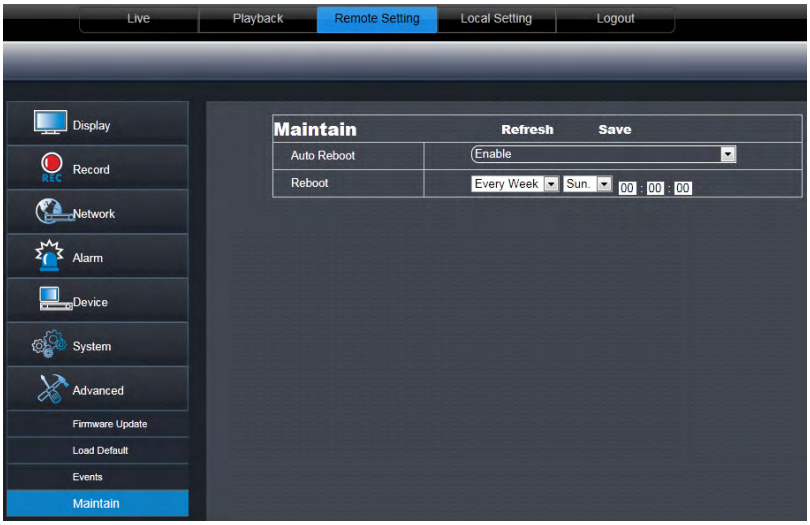
3 Click **Save** to save changes.

Configuring Auto-Reboot

Auto-reboot allows the system to restart automatically at a set time or date. This improves system stability.

To configure Auto Maintain:

1. Click the **Remote Setting tab**, and click **Advance→Maintain.**
2. Click the **Auto Reboot** drop-down menu, and select **Enable** or **Disable** to activate or deactivate the auto-reboot feature.
3. Under **Reboot**, select how often you want the system to reboot and the time you want the system to reboot.



4. Click **Save** to apply your settings.

Lorex Player 11: Playing Backed up Video on PC

Lorex Player 11 allows you to view your backed up video files from your DVR on your PC.

NOTE: To view backed up video files on Mac, see "Lorex Player for Mac: Viewing Backed up Video on Mac" on page 94.

Minimum System Requirements

- Intel Pentium 4 or above
- Microsoft Windows XP/Vista/7/8
- 256 MB Ram
- 16 MB video memory

Prerequisites

- Back up video files from the DVR to your local hard drive.

Installing Lorex Player 11

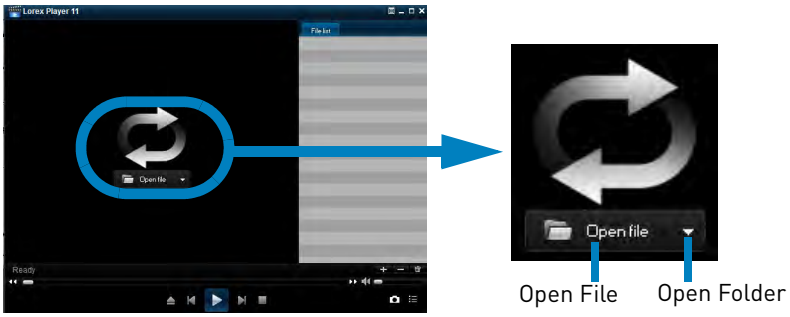
1 Insert the software CD that comes included with the system.
- **OR** download **Video Player for PC** from www.lorextechnology.com, under the page for your DVR model.

2 Click **DVR Software→Lorex Player - PC**. Follow the on-screen instructions to install Lorex Player 11.

Running Lorex Player 11

1 Double-click the Lorex Player 11 ( ) icon on the desktop.

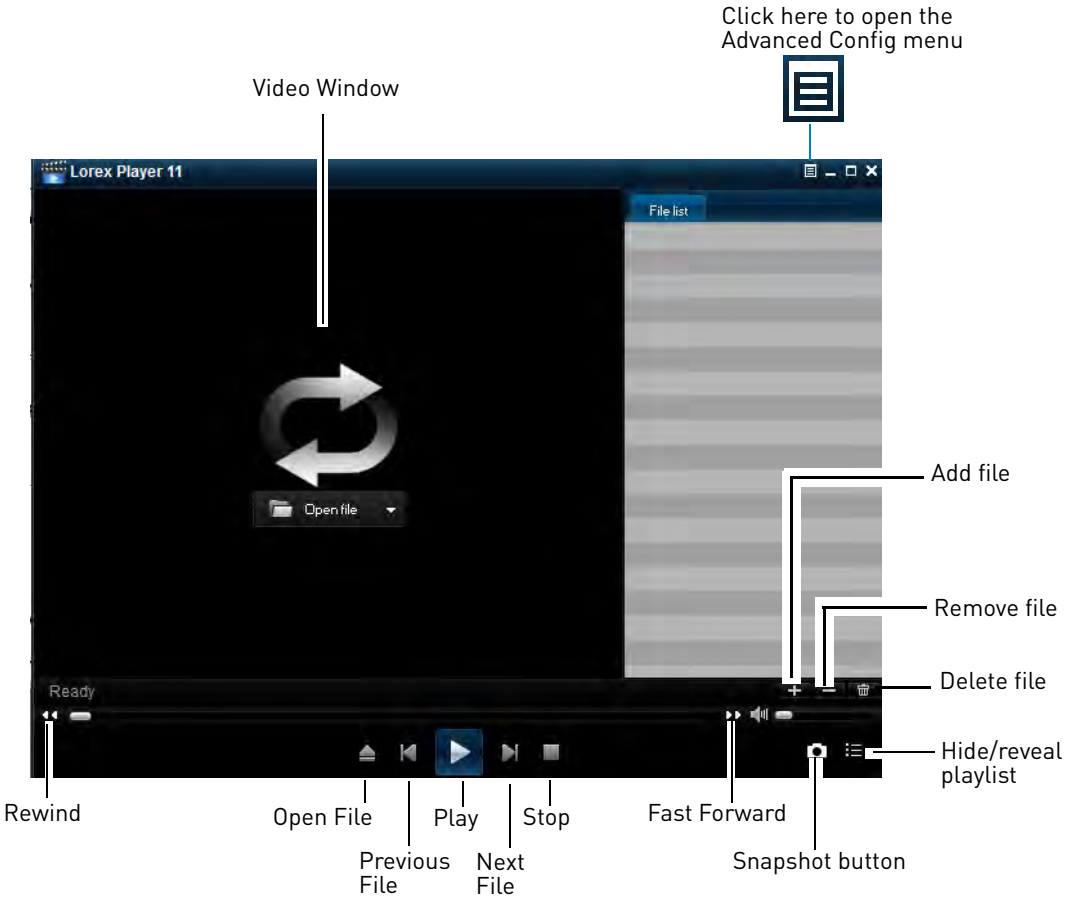
2 Click the **Open File** to load a single video file. Click the ▼ button next to it to load a folder with backed-up videos.



3 Select the file and click **Open**.
- If you are opening a folder, click **Add**.

4 Double-click the file in the list on the right to begin playback.

Lorex Player 11 Interface Overview



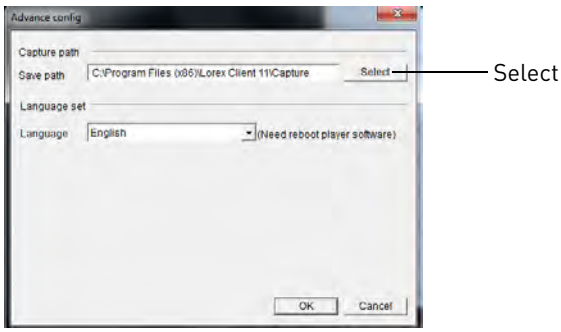
About the Advanced Config menu

The Advanced Config menu allows you to select where the screen captures are stored.

To open the Advanced Config menu:

1 Click the button.

2 Click **Select** to change the snapshot save folder. Then select the folder and click **OK**.



Select

3 Click **OK** to save changes.

Lorex Player for Mac: Viewing Backed up Video on Mac

Lorex Player for Mac allows you to view your backed up video files.

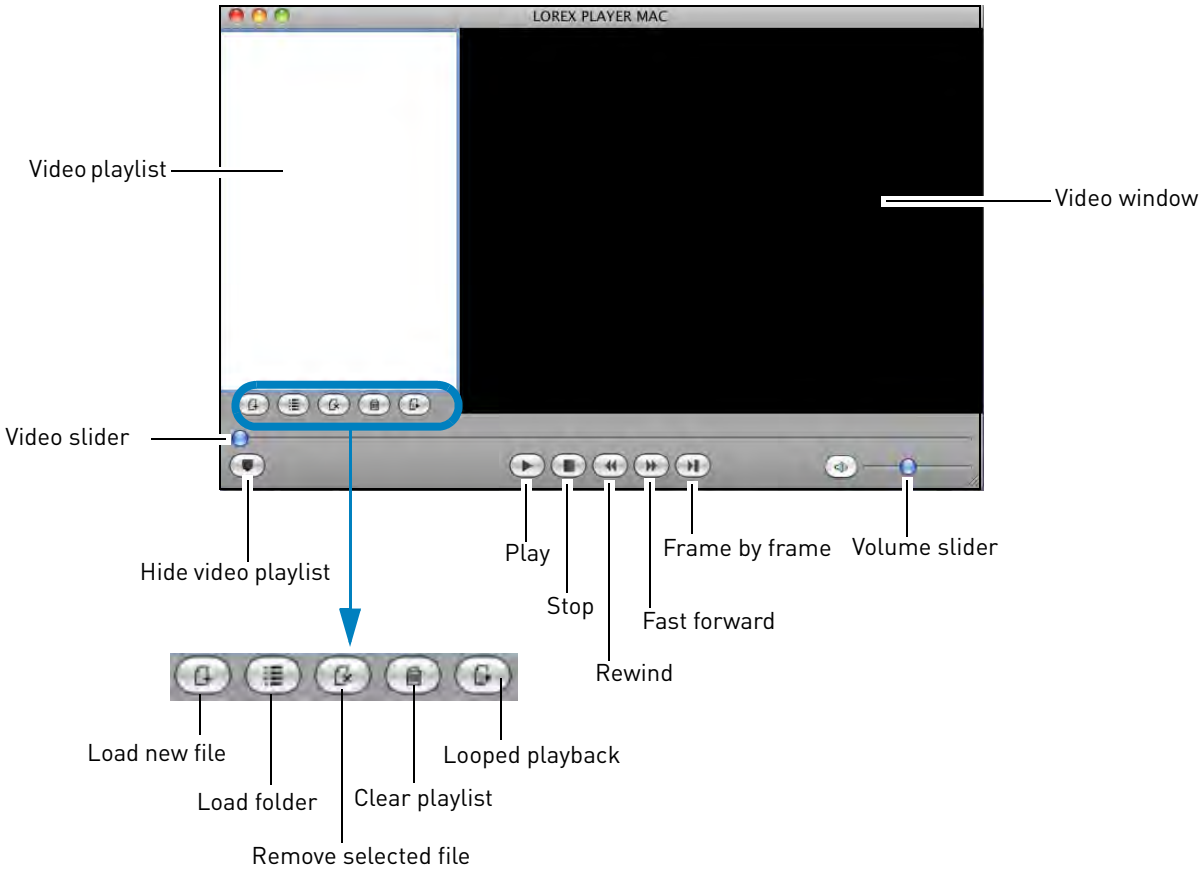
To install Lorex Player Mac:

1. Go to www.lorextechnology.com and search for the model number of your DVR (look at the label underneath your DVR for the model number).
2. Navigate to the product page for your DVR model and download **Video Player for MAC**.
3. Extract the file and double-click the Lorex Mac Player installer (**.pkg**) file. Follow the on-screen instructions to install the software.

Launching Lorex Player Mac:

- Click the Lorex Player Mac icon ( ) in the Dock or in your Applications List in Finder.

Lorex Player Mac interface



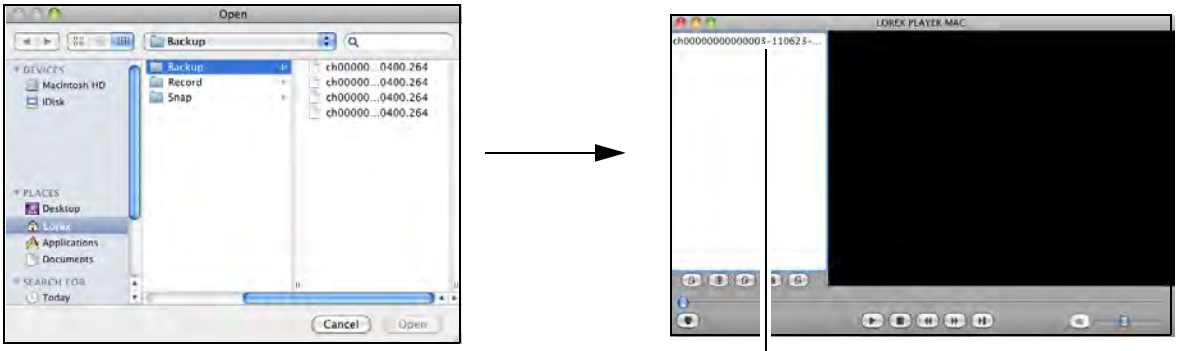
Loading Individual Video Files

To load files saved onto your hard drive:

1 Click the Load new file button ( ).

2 Browse and select the desired file. Click **Open** to add the file to the video playlist.

NOTE: The default save directory is in your Home folder/dvr.



3 Double-click the video file in the playlist to begin playback.

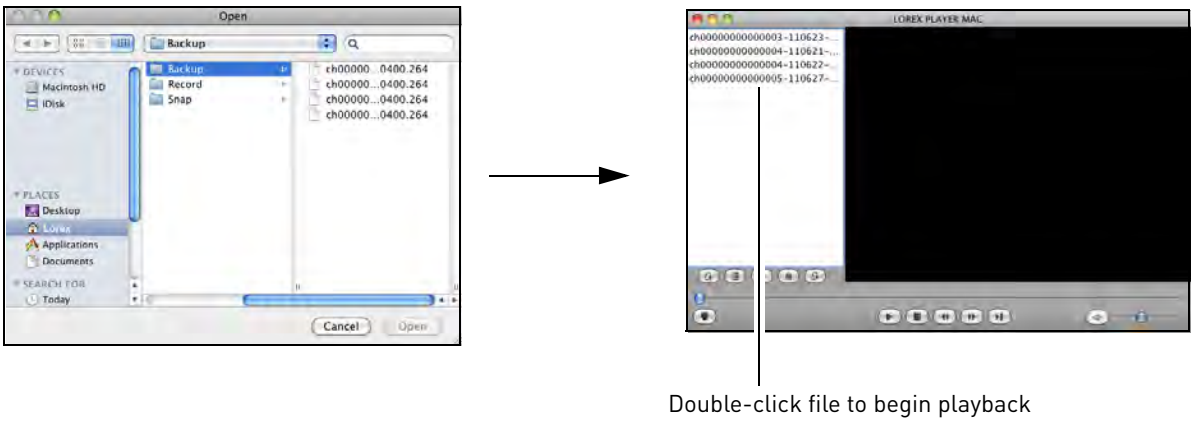
Loading Multiple Video Files

You can load an entire folder of video files.

To load multiple video files saved onto your hard drive:

1 Click the Load folder button ( ).

2 Select the desired folder you wish to add to the playlist. Click **Open** to add all the videos in the folder.



3 Double-click the video file in the playlist to begin playback.

Mobile Apps: Accessing your DVR Using a Mobile Device

You can remotely view camera streams from your DVR on compatible mobile phones and tablets.

NOTE: Port forwarding is required before you can connect to your DVR using a mobile device. Different features are available on each mobile viewing device and application.

Compatible Devices and Platforms

Platform	Supported Versions and Devices	App Name	Get App From
iOS	iOS v. 4.0 and higher iPhone/iPod Touch iPad (1st generation and above)	Lorex Mobile Eco	Apple App Store
Android	Android v. 1.5 and above	Lorex Mobile Eco	Google Play Store
Windows Mobile	v.6.0, 6.5, touch screen models only **NOTE:** Windows Phone 7/8 is not currently supported	Lorex Mobile Eco	www.lorextechnology.com

For the latest device compatibility list, visit www.lorextechnology.com

Before you Begin

You will need the following before you can start viewing on your mobile device:

- **Your DVR's DDNS address:**
  Before you can connect with a mobile device, you must complete the setup process for remote viewing to obtain your DDNS address and enable DDNS on your DVR. Complete all the steps under "Setting up your DVR for Remote Connectivity" on page 56.
- **The Mobile Port Number of your DVR:**
  The Mobile Port (default: **1025**) must be port forwarded before you can connect using a mobile device. For details on port forwarding, see the Easy Connect manual on the CD or the reference guides on www.lorextechnology.com. To find your Mobile port, press **PTZ /** ↵ on the front panel of the DVR to open the System Information window and look under Mobile Port.
- **The mobile user ID and password of your DVR:**
  See the table on the right for the default mobile access user ID and password.

Mobile ID / Password

ID	PASSWORD
admin	0000

iPhone / iPad

Use the **Lorex Mobile Eco** application to connect to your DVR on the iPhone or iPad.

NOTE: Resolution is scaled up for the iPad screen.

System requirements

- iOS version 4.0 and above.

NOTE: For the latest device compatibility list, visit www.lorextechnology.com

Prerequisites

- An iTunes account (requires valid credit card number).

NOTE: Your credit card will not be billed when downloading the Lorex Mobile Eco App.

> **!** **You must port forward the mobile port (default: 1025) on your router before you can connect to your system using a mobile device** (e.g. iPhone, iPad)

Step 1 of 3: Downloading the App

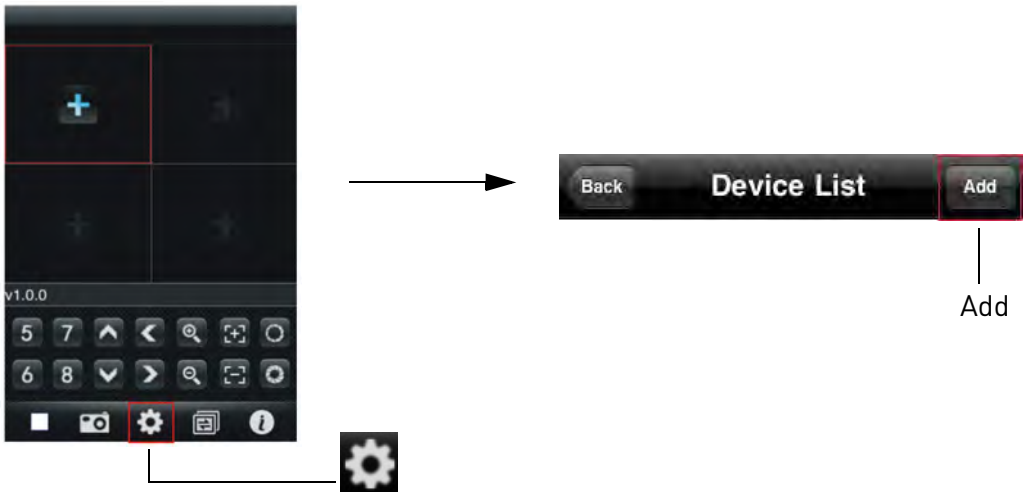
1 Install **Lorex Mobile Eco** from the App Store.

NOTE: For support on downloading or installing iPhone / iPad apps, consult your iPhone / iPad user's manual or www.apple.com for support.

Step 2 of 3: Configuring Lorex Mobile Eco

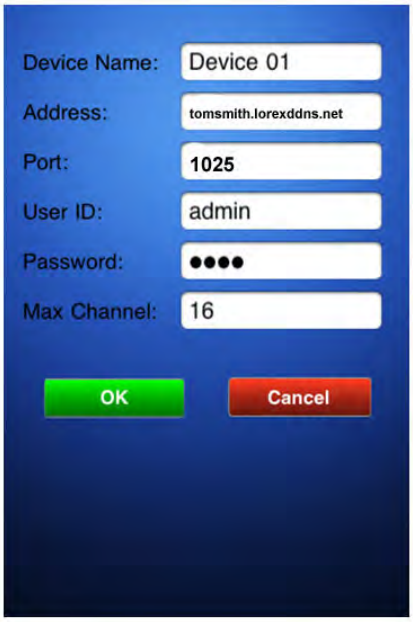
1 Touch the Lorex Mobile Eco icon ( ).

2 Touch to open the Device List menu and then touch **Add**.



3 Enter the following:

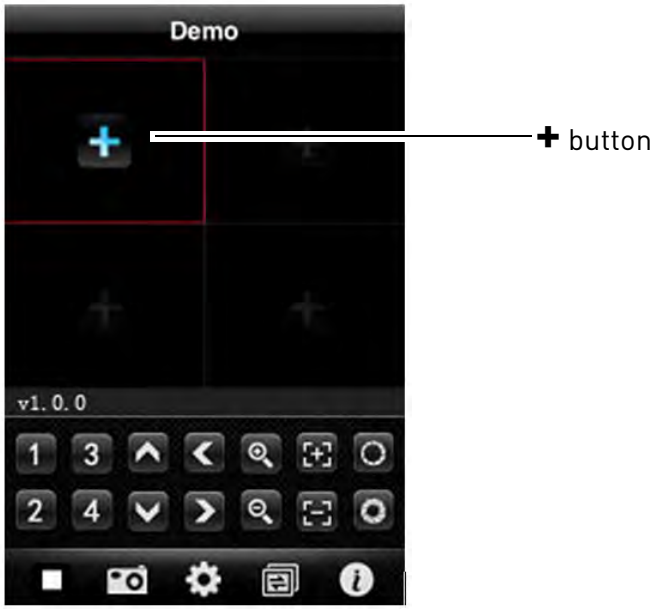
- **Device Name**: Enter the name of your system. This can be any name of your choice.
- **Address**: Enter the DDNS address of the DVR (e.g. *tomsmith.lorexddns.net*)[1].
- **Port**: Enter the Mobile Port number of the DVR (by default, port **1025**).
- **User ID**: Enter the mobile access user ID of the DVR (default: **admin**).
- **Password**: Enter the DVR's mobile access password (default: **0000**)
- **Max Channel**: Enter the number of channels of the DVR (4, 8, or 16).



4 Touch the **OK** button and then touch the **Back** button.

Step 3 of 3: Connecting to your DVR

1 In Quad View, touch the plus button **(+)**.



- If a channel is already selected, touch ■ then touch + to select another channel.

2 Touch the name of your DVR. Select the channel that you want to display in the selected space.

1. Some routers may prevent you from connecting to your DVR using a DDNS address on a local network. If you are unable to connect, try disabling WiFi on your mobile device and attempt to connect using the 3G or mobile network. If you need to use WiFi, use the DVR's internal IP address to connect.

- The selected channel appears in the quad screen display.

Touch the name of your DVR. Select the desired channel. The channel appears in quad view.

TIP: Double-tap the channel to view video in full screen.

3 Repeat steps 1~2 as required for the remaining channels.

Deleting Accounts

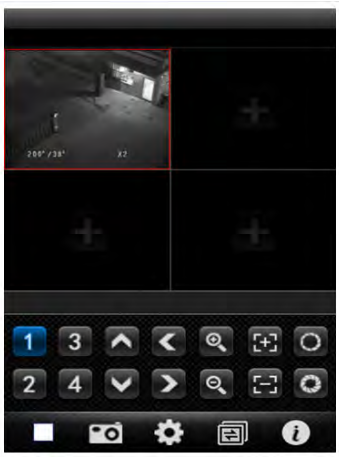
- From the Device List, swipe your finger on beside your device name. The Delete button appears. Touch the **Delete** button to remove the device.

Taking Snapshots

You can take a picture of the selected channel. The images save into your Photos directory.

To take snapshots:

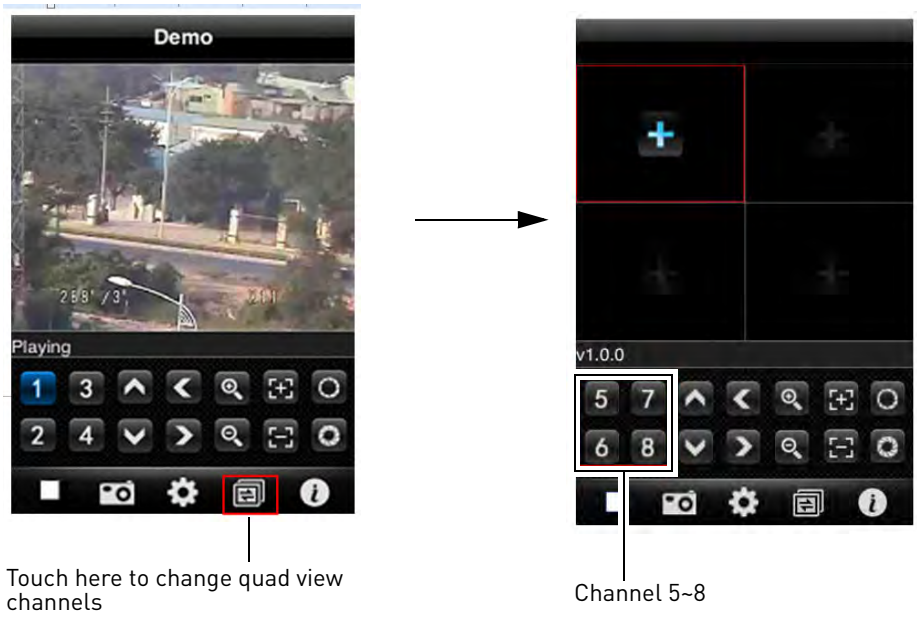
- Touch the camera button ( ).



Camera button

Changing Channels

- Touch the button repeatedly to display channel 1~4, 5~8, 9~12, 13~16.



Interface Overview

1 **Add Device**: Touch to add a DVR channel.

2 **Channel List**: Touch to view channel in full screen.

3 **Pan & Tilt camera** (PTZ only).

4 **Zoom in/out** (PTZ only).

5 **Focus** (PTZ only).

6 **Iris** (PTZ only).

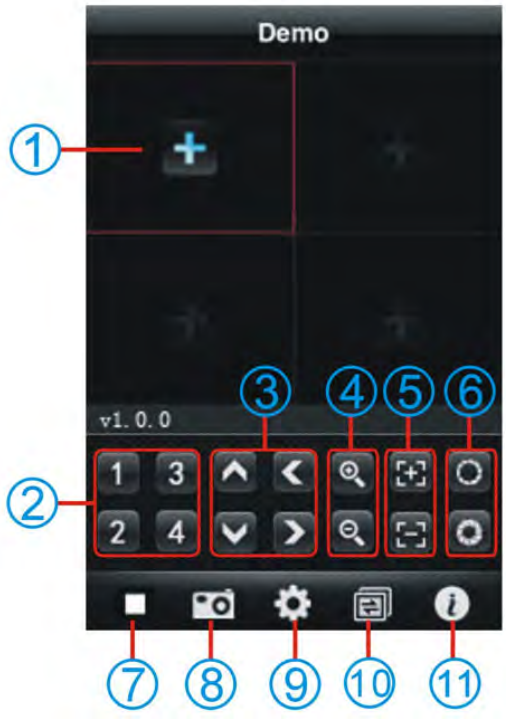
7 **Disconnect**: Disconnects channel.

8 **Snapshot**: Takes an image of the channel.

9 **Setup:** Touch to enter the setup menu.

10 **Channel button**: Touch to change the quad channel numbers (Ch 1~4, 5~8, 9~16).

11 **System info**: Display system information.



Android

Use the **Lorex Mobile Eco** application to connect to your DVR on an Android smartphone or tablet.

NOTE: The instructions below may differ depending on the model of your Android device.

System requirements

- Android v. 1.5 and above.

NOTE: For the latest device compatibility list, visit www.lorextechnology.com

! You must port forward the mobile port (default: 1025) on your router before you can connect to your system using a mobile device (e.g. Samsung Galaxy S, HTC Incredible S)

Step 1 of 2: Downloading the App

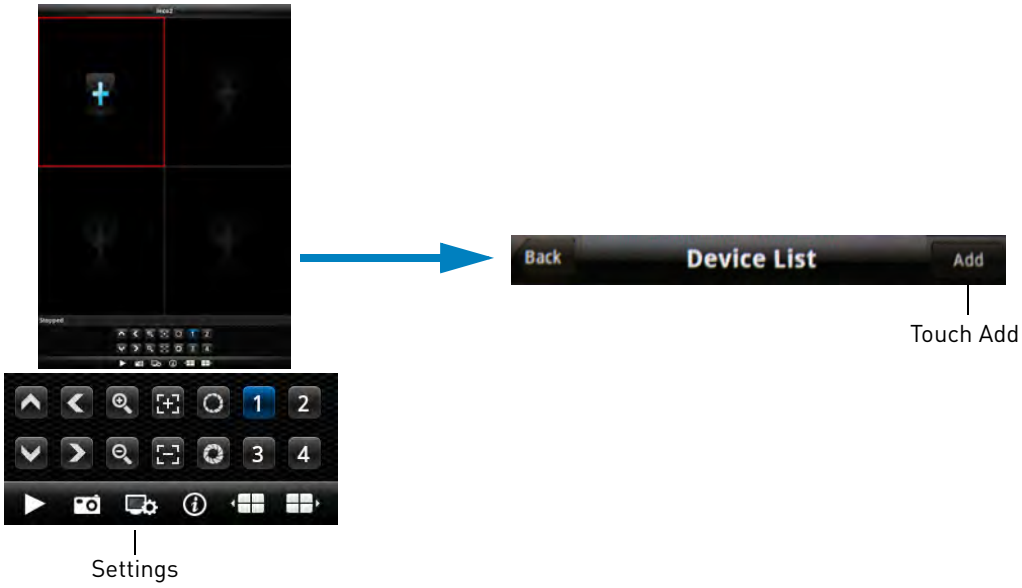
1 Install **Lorex Mobile Eco** from the Google Play Store.

NOTE: For support on downloading or installing Android apps, consult your Android device's user's manual or the manufacturer's support site.

Step 2 of 2: Configuring and Connecting to Lorex Mobile Eco

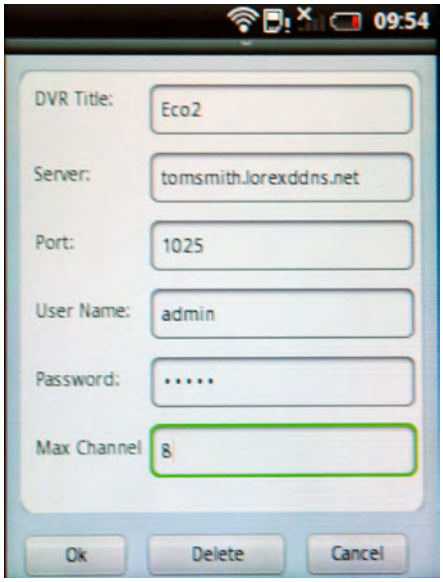
1 Open the **Lorex Mobile Eco** ( ) app from the applications list.

2 Touch the Settings button ( ) to open the Device List and touch **Add**.



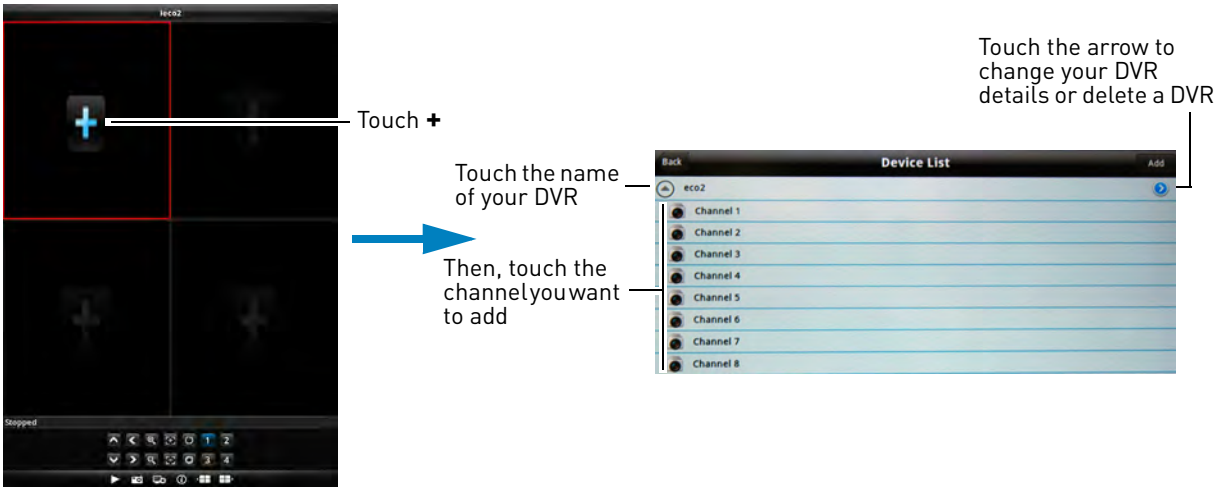
3 Configure the following:

- **DVR Title**: Enter a name for your DVR of your choice.
- **Server**: Enter the DDNS address of the DVR (e.g. *tomsmith.lorexddns.net*)[1].
- **Port**: Enter the DVR's Mobile Port number (default: **1025**).
- **User Name**: Enter the mobile access ID (default: **admin**).
- **Password**: Enter the DVR password (by default: **0000**).
- **Max Channel**: Enter the number of total channels your DVR can support (e.g. **4**, **8**, or **16**).

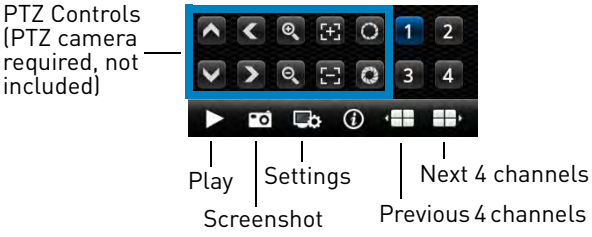


4 Touch **OK**. Touch the **Back** button.

5 In Quad View, touch **+**. Touch the name of your DVR and select the channel you would like to display in the space in Quad view.



Viewing Controls



1. Some routers may prevent you from connecting to your DVR using a DDNS address on a local network. If you are unable to connect, try disabling WiFi on your mobile device and attempt to connect using the 3G or mobile network. If you need to use WiFi, use the DVR's internal IP address to connect.

Windows Mobile

System requirements

- v. 6.0, 6.5 (touch screen models only)
- Windows Phone 7/8 is not currently supported

NOTE: For the latest device compatibility list, visit www.lorextechnology.com

! You must port forward the mobile port (default: 1025) on your router before you can connect to your system using a mobile device (e.g. Windows Mobile Smartphone)

Step 1 of 2: Downloading the App

1 Go to www.lorextechnology.com, and search for the model number of your DVR (look at the label underneath your DVR for the model number).

2 Navigate to the product page for your model and download the appropriate app for Windows Mobile devices.

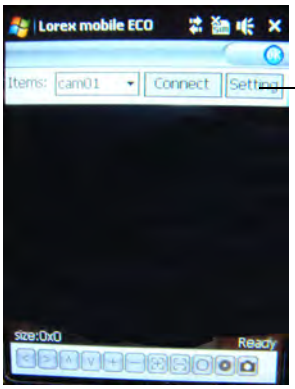
3 Download and install the app on your Windows Mobile phone.

For support on downloading or installing Windows Mobile apps, consult your Windows Mobile's user's manual, or www.microsoft.com for support.

Step 2 of 2: Configuring and Connecting to Lorex Mobile Eco

1 Open the **Lorex Mobile Eco** ( ) app on your phone.

2 Click the **Setting** button.



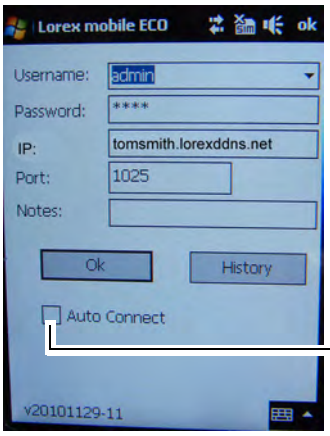
Setting

3 Configure the following:

- **User Name**: Enter the mobile access user ID of the DVR (default: **admin**).
- **Password**: Enter the mobile access password (by default: **0000**).
- **IP**: Enter the DDNS address of the DVR (e.g. *tomsmith.lorexddns.net*)[1].

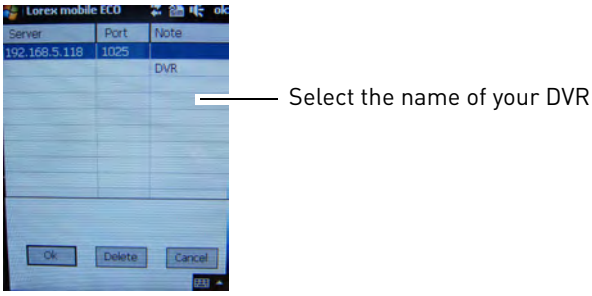
1. Some routers may prevent you from connecting to your DVR using a DDNS address on a local network. If you are unable to connect, try disabling WiFi on your mobile device and attempt to connect using the 3G or mobile network. If you need to use WiFi, use the DVR's internal IP address to connect.

- **Port**: Enter the DVR's Mobile Port number (by default, port **1025**).



4 Select the **Auto Connect** checkbox and then click **Ok**.

5 From the Server window, select the DVR account you created. Click **OK** to connect to the DVR.



Appendix A: System Specifications

SYSTEM	
Operating System	Linux (embedded)
Pentaplex	Simultaneous View, Record, Playback, Backup & Remote Monitoring
Number of Channels	**8/16** Channel
Inputs/Outputs	
Video IN	8/16 x 1Vp-p, CVBS, 75ohms, BNC
Video OUT	8/16 1 x BNC
VGA OUT	Yes
HDMI	Yes. Video and Audio
Audio IN	8 line IN (RCA), G.711(8 ch), 4 line in(RCA), G.711(16 ch)
Audio OUT	1 line OUT (RCA), G.711
USB Port	1 at the back, 1 at the front
Alarm IN	8 ch IN
Alarm OUT	1 ch OUT
Video Output Resolution	800x600, 1024x768, 1280x1024, 1440x900, HDMI (1920x1080)
PTZ control	RS-485 Pelco D & P Protocol
Display	
Live Display	**8 ch:** 1, 4, 8 **16 ch:** 1, 4, 9, 16
Live Display Speed	240 (8 ch)/ 480 (16 ch) NTSC 200 (8 ch)/ 400 (16 ch) PAL
OSD	ON/OFF
System Navigation	USB Mouse, IR Remote Controller, Front Panel
Motion Area Setting	Adjustable grid (30x44) NTSC Adjustable grid (36x44) PAL
Sensitivity levels	8
Firmware Upgrade	Via USB device and Network
User Authority	By user group
Time Synchronization	Auto time sync by NTP server
RECORDING	
Video Compression	H.264
Audio Compression	G.711
Recording Resolution	**NTSC:** D1 mode: 720x480(D1), 720x240(2CIF), 360x240(CIF) **960H:** 960x480, 960x240, 480x240 **PAL:** D1 mode: 720x576(D1), 720x288(2CIF), 360x288(CIF) **960H:** 960x576, 960x288, 480x288
Recording Speed **8ch:**	**NTSC: D1 mode:** 240fps @ D1, 2CIF & CIF **960H:** 240fps @ 960x480, 960x240 & 480x240 **PAL: D1 mode:** 200fps @ D1, 2CIF & CIF **960H:** 200fps @ 960x576, 960x288 & 480x288
Recording Speed **16ch:**	**NTSC: D1 mode:** 480fps @ CIF, 224fps @ D1 & 2CIF **960H:** 480fps @ 480x240,160fps @ 960x480 & 960x240 **PAL: D1 mode:** 400fps @ CIF, 192fps @ D1 & 2CIF **960H:** 400fps @ 480x288,144fps @ 960x576 & 960x288
Recording Resolution Setting	Per camera for different resolutions
Recording Quality Control	3 levels
Recording Schedule	By hour, by day, by recording mode, by motion, by alarm, by ch
Pre Recording	Max. 10 Secs
Post Recording	Max. 5 Minutes
Reliability	Watch-Dog, Auto-recovery after power failure
Covert Video	Yes

PLAYBACK	
Playback Channel	1~8 Adjustable (8 ch), 1~16 Adjustable (16 ch)
Playback Speed	Variable Max 16x
Playback Players	Backup Player
Search	By time & event
Log Search	Up to 10,00,000 lines for alarm activated, motion detected, configuration changes, connects/disconnects and video loss.
Audio Play	Yes
STORAGE & ARCHIVE	
Storage	**8 ch:** Up to 1 HDD's (SATA) **16 ch:** Up to 2 HDD's (SATA)
Maximum Capacity	**8 ch:** up to 1x 2TB **16 ch:** up to 2x 2TB
Backup Media	USB Flash Drive & HDD
Backup File Format	H.264 file (AVI generator included)
CONNECTIVITY	
Easy Connect	Lorex Auto Port Forward Wizard
Supported Operating Systems	**8/16 ch: Windows**™ XP, Vista, 7 , 8 **8/16 ch: Mac** OSX Snow Leopard 10.6 or above
Browsers	Internet Explorer & Safari 6.0
Email notification	Text with snapshot
Instant Smart Phone Compatibility†	Smart Phone & Tablet Compatibility: iPad®, iPhone®, Android (version 1.5 & above), Windows Mobile (6.0, 6.5)
DDNS	Free Lorex DDNS
System Configuration	Full setup configuration over network
Ports	Programmable by User
Network Protocol	TCP/IP / DHCP / UDP / DDNS / PPPoE
Network Interface	10/100-Base-TX, RJ-45
Network Speed Control	48Kb ~ 8MB/sec.
GENERAL	
Power Consumption	Approx. 10 watts (no HDD included)
Supply Voltage	**8 ch:** 100VAC-240VAC, 12VDC , 2A, 50/60Hz **16 ch:** 100VAC-240VAC, 12VDC , 5A, 50/60Hz
Unit Dimensions (W x D x H)	**8 ch:**11.8"/300mm x 9.9"/251mm x 2.4"/60mm **16 ch:**14.9" /340mm x13.3"/340mm x 1.9"/50mm
Unit Weight (KGs)	**8 ch:** 1.7 kg/3.75 Lbs **16 ch:** 3 kg/6.6 Lbs
Operating temperature	32° ~ 104° F / 0° ~ 40° C
Humidity	10 ~ 90% NC

As our products are subject to continuous improvement, Lorex Technology Inc. and its subsidiaries reserve the right to modify product design, specifications, and prices without notice and without incurring any obligation. *E&OE*

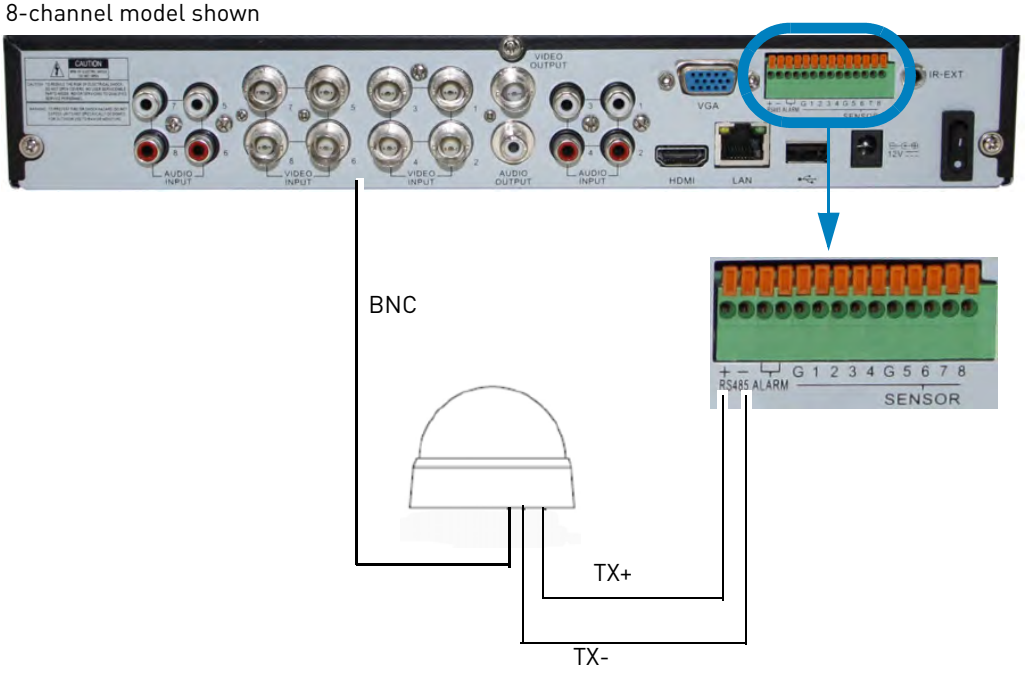
Appendix B: Connecting a PTZ Camera

You can connect RS-485 PTZ cameras (not included) to the RS485 ports on the rear panel.

To connect a PTZ camera to the system:

1. Connect the Transmit+ (TX+) Cable to the **+** side of the **RS485** port on the rear panel.
2. Connect the Transmit- (TX-) Cable to the **-** side of the **RS485** port on the rear panel.
3. Connect the video cable to a BNC port.

8-channel model shown



Configuring PTZ Settings

Before you can use the PTZ controls, you must enter your camera's PTZ protocol details into the DVR.

Prerequisite:

- Obtain the PTZ protocol details for your camera. Check your camera's instruction manual for details.

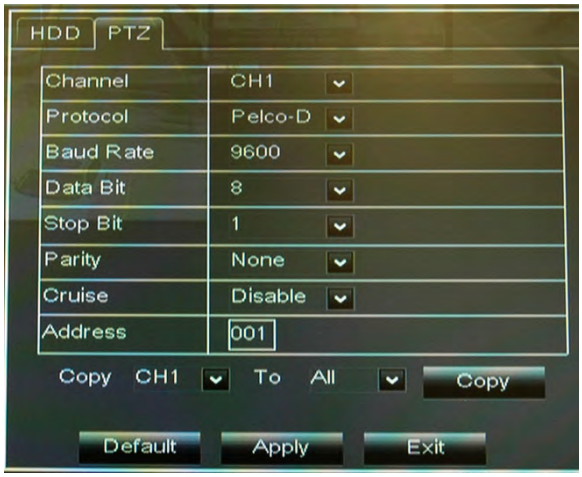
To enter PTZ camera settings in the DVR:

1. Right-click to open the Menu Bar and click the Main Menu button ( ).
2. Click **Device** and select the **PTZ** tab.

3 Configure the following according to your PTZ camera's specifications:

- **Channel**: Select the channel the PTZ camera is connected to.
- **Protocol**: Select from **Pelco-D** or **Pelco-P**.
- **Baud rate**: Select the PTZ camera's baud rate.
- **Data Bit**: Select from **5~8** data bits.
- **Stop Bit**: Select from **1** or **2** stop bits.
- **Parity**: Select from **None, Odd, Even, Mark** or **Space**.
- **Cruise**: Select **Enable** to enable PTZ cruise.
- **Address**: Enter the PTZ camera's address

Use the Copy To drop-down menu to copy the PTZ settings to multiple channels.



4 Click **Apply** to save your settings.

Using the PTZ Menu (Local DVR)

To control the PTZ camera locally on your DVR:

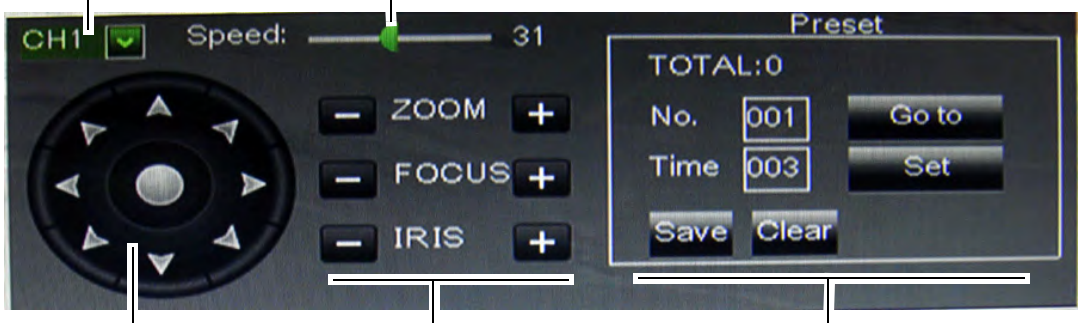
1 Select the channel that the PTZ camera is connected to.

2 Press and hold the **PTZ** button on the front panel of the system for 6 seconds. Enter the system password. The PTZ menu opens.

PTZ button

Press and hold for 6 seconds

3 Use the on-screen PTZ controls to control the camera.



PTZ Presets and PTZ Cruise

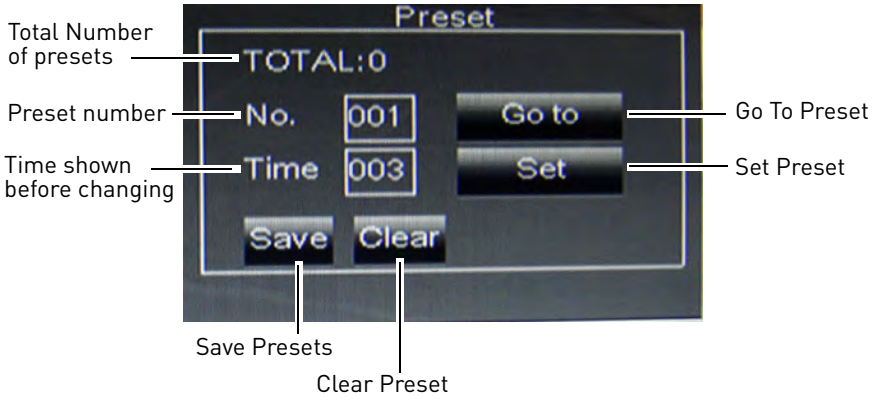
You can set preset positions for your PTZ cameras. You can also use PTZ cruise to have the camera automatically cycle through presets.

Setting PTZ Presets

1 Using the PTZ controls, move the camera into position.

2 (Optional) In the **Time** field, select the number of seconds the camera will remain in that position during PTZ cruise before going to the next position.

3 Click **Set** to set the preset. The Total and No. field will automatically increase. The Total field shows you the total number of created presets, and the No. field shows you the number of the preset you are currently creating.



4 Complete the steps above to create additional presets as needed. Press **Save** when you are finished to save all created presets.

Selecting PTZ Presets

1 In the **No.** field, select the number of the preset you would like to select.

2 Click **Go to** to go to the preset.

Deleting PTZ Presets

1 In the **No.** field, select the number of the preset you would like to delete.

2 Click **Clear** to delete the preset and click **Save** to save your changes.

Starting / Stopping PTZ Cruise

When PTZ cruise is enabled, the camera will cycle through saved presets. You must set and save presets to use PTZ cruise.

To start / stop PTZ cruise:

1 Right-click to open the Menu Bar and click the Start Cruise button ( ). Enter the system password. The camera will cycle through PTZ presets.

- To stop the PTZ cruise, right-click to open the Menu Bar and click the Stop Cruise button ( ). Enter the system password.

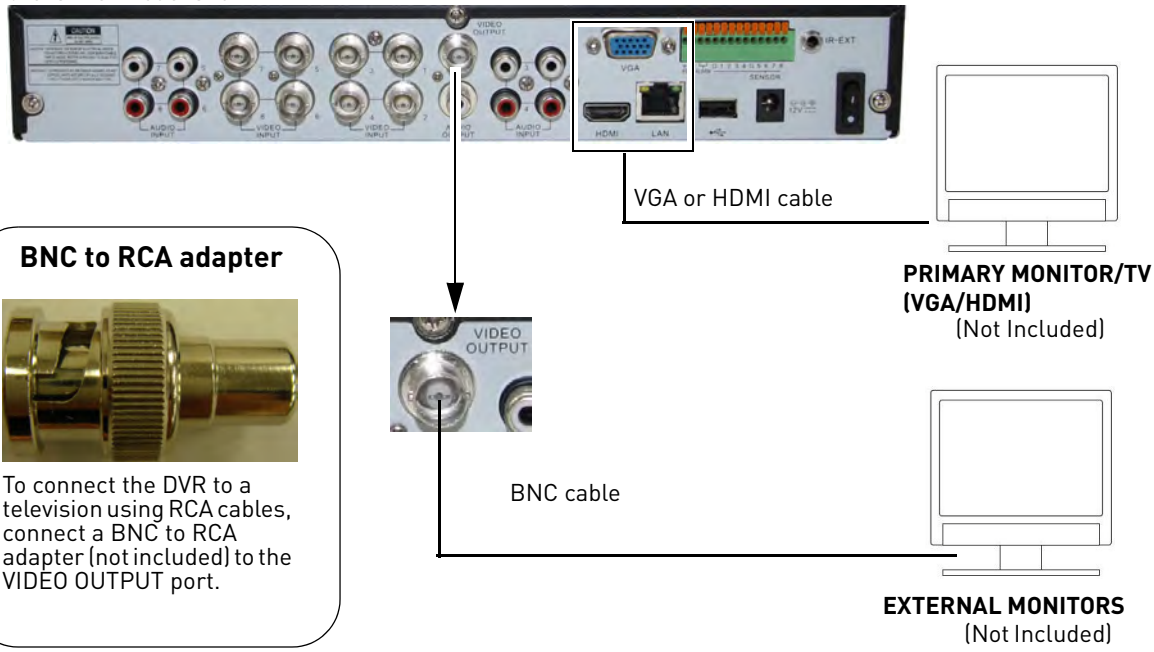
Appendix C: Connecting Additional External Monitors

Connect one monitor to the **VGA** port and one to the **HDMI** port to display the system interface on two monitors simultaneously.

Use the **Video Output** port (BNC) on the rear panel of the system to connect an external monitor. This is useful if you need to monitor the system from a second location (e.g. a back office).

- You can press **0** on the remote control three times to switch the mouse and system interface between the monitor connected to the VGA/HDMI port and the monitor connected to the Main port.

8-channel model shown



BNC to RCA adapter

To connect the DVR to a television using RCA cables, connect a BNC to RCA adapter (not included) to the VIDEO OUTPUT port.

Customizing the Channel Arrangement on the External Monitor

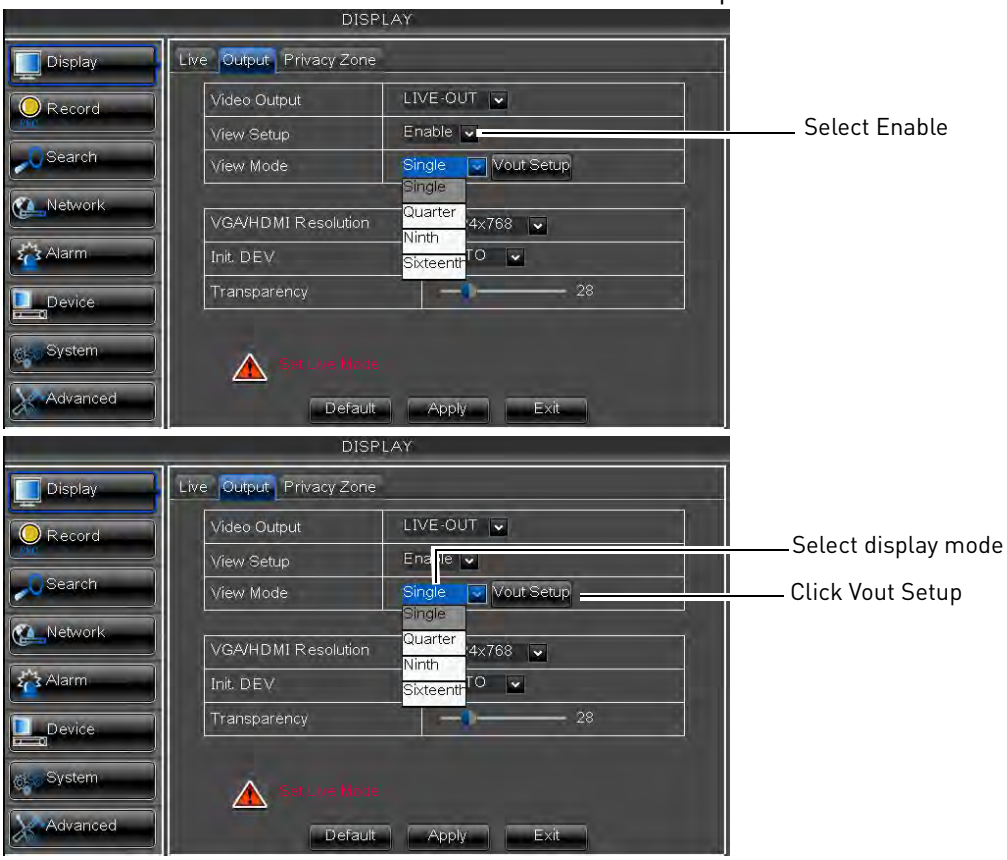
You can use the steps below to create a custom split-screen display on a secondary monitor connected to the **Video Out** port.

To customize the channel arrangement on the external monitor:

1. Connect an external monitor the **Video Out** port, as shown above.
2. Press **0** three times on the remote control to move the mouse and system interface to the monitor connected to the Video Out port.
3. Right-click and click the Main Menu button ( ).
4. Click **Display→Output**.

5 Under **View Setup**, select **Enable**. This lets you select and arrange the channels you want to show on the screen.

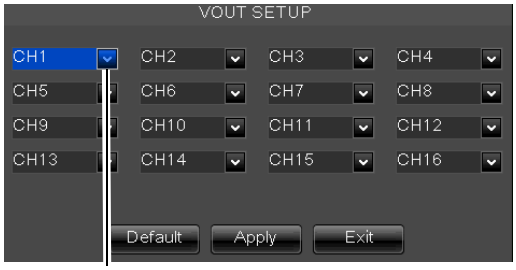
NOTE: Enabling View Setup disables your ability to change channels the normal way on the selected monitor. You will need to disable View Setup to return to normal operation.



6 Under **View Mode**, select the desired viewing mode: **Single**, **Quad**, **Nine**, or **Sixteen**.

7 Click **Vout Setup**. A menu appears that allows you to select the arrangement of channels.

8 Click the drop-down menus to select which channels to show on the screen and the arrangement of channels.



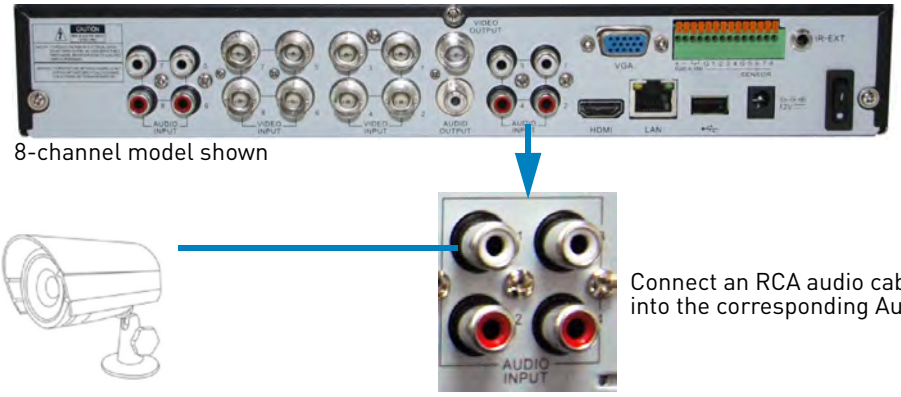
Select the arrangement of channels on screen

9 Click **Apply** to save changes. Click **Ok**. Right-click repeatedly to and return to live viewing.

10 Press **0** on the remote control 3 times to restore the system interface to the VGA/HDMI monitor.

Appendix D: Recording Audio

The system can also record audio for up to 4 channels (16-channel models) or 8 channels (8-channel model). You must have audio-capable cameras (not included) or self-powered microphones (not included) in order to record audio on the system.



8-channel model shown

To enable audio recording:

1. Connect the BNC video cable from the camera to one of the BNC **Video INPUT** ports on the rear panel of the DVR between 1 and 4 (16-channel models) or any Video Input port (8-channel). For example, connect the camera to Video INPUT port 1.
2. Connect the RCA audio cable from the camera to the corresponding **Audio INPUT**. Following the example in step 1, you would connect the cable to Audio INPUT port 1.
3. Right-click to open the Menu Bar and click the Main Menu button ( ).
4. Click **Record** and select the **MainStream** tab.

5. Ensure the **Audio** checkbox is checked next to the channel the audio-enabled camera is connected to.
6. Click **Apply** to save your changes.

Appendix E: Replacing the Hard Drive

The system comes with a pre-installed SATA hard drive. You can expand the 8-channel model with a replacement 3.5" or 2.5" SATA hard drive up to 2 terabyte (TB). The 16-channel model has two hard drive bays and can be expanded with a maximum of two 2TB 3.5" or 2.5" SATA hard drives (for a maximum storage space of 4TB).

NOTE: It is recommended to use surveillance or security-certified hard drives, which are designed to be reliable over long periods of time while recording 24/7. Security-certified hard drives are available at www.lorextechnology.com

Removing the Hard Drive

The steps to remove the hard drive differ depending if you have an 8-channel or 16-channel DVR.

8-Channel

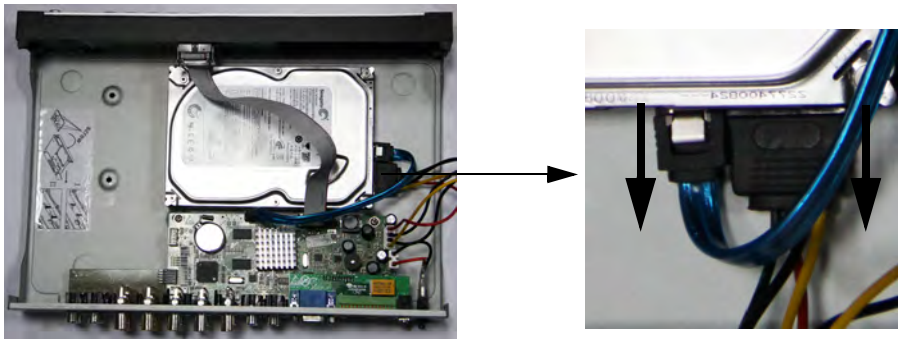
To remove the hard drive:

Make sure that the power cable has been disconnected before changing the hard drive.

1 Remove the screw from each side panel and rear panel (x3) of the cover.

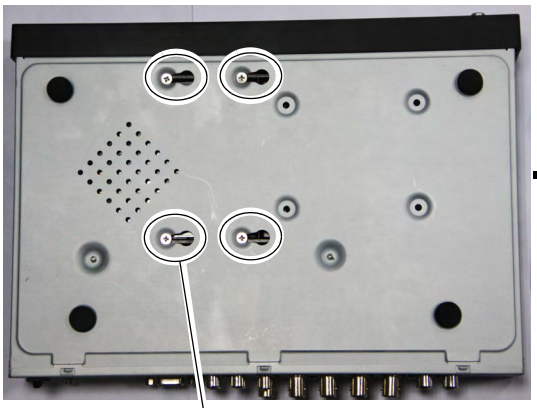
2 Gently slide the cover away from the rear panel and lift off. Be careful of sharp edges.

3 Disconnect the power and data cables.



4 Next, remove the hard drive from the housing:

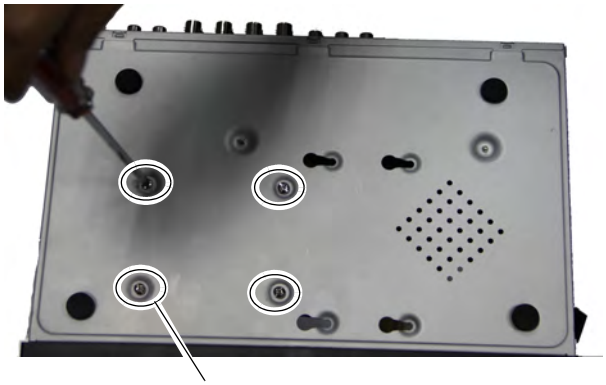
- If your system has a 3.5" hard drive, turn the DVR over carefully and loosen the 4 screws securing the hard drive. Turn the DVR back over and slide the hard drive and lift out of the DVR. Remove the 4 screws on the bottom of the hard drive.



Loosen the hard drive screws

Slide the hard drive and lift out of the DVR

- If your system has a 2.5" hard drive, turn the DVR over carefully. Hold the hard drive in place and remove the 4 screws securing the hard drive. Keep holding the hard drive and turn the DVR back over. Remove the hard drive from the DVR.



Remove the hard drive screws

Make sure to hold the hard drive in place while removing the hard drive screws and turning the DVR to avoid damaging the DVR.

5 Replace the side and cover panel screws.

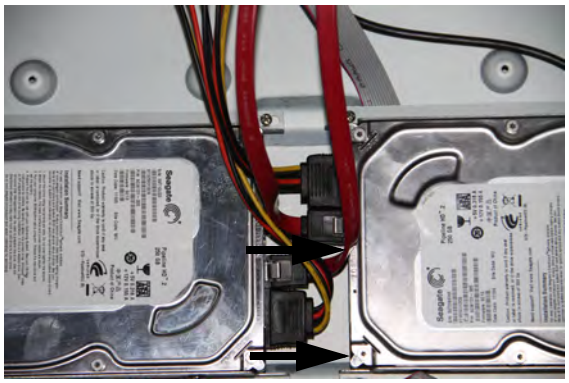
16-Channel

Make sure that the power cable has been disconnected before changing the hard drive.

1 Remove the screws from each side panel (x2) and rear panel (x4) of the cover.

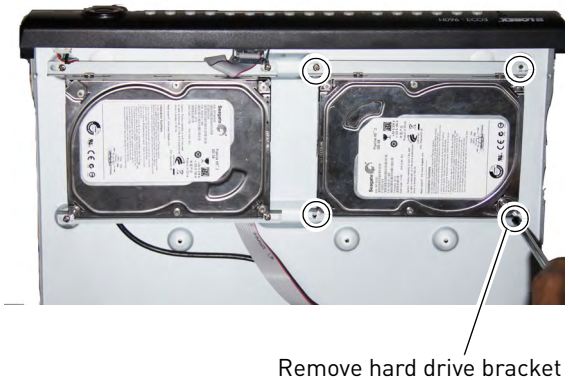
2 Gently slide the cover away from the rear panel and lift off. Be careful of sharp edges.

3 Disconnect the power and data cables.

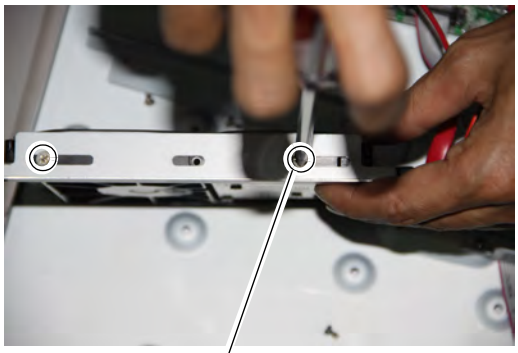


4 Next remove the hard drive from the housing:

- If your system has a 3.5" hard drive, remove the 4 screws holding the hard drive bracket and remove the bracket from the DVR. Remove the 4 screws securing the hard drive to the bracket and remove the hard drive from the bracket. Replace the hard drive bracket and hard drive bracket screws.

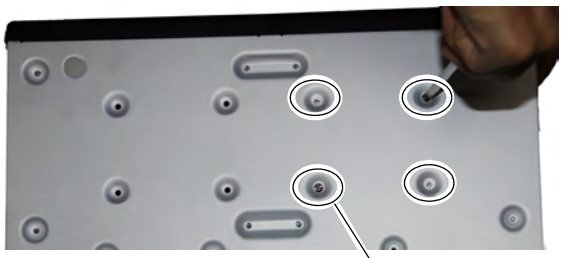


Remove hard drive bracket



Remove the hard drive screws

- If your system has a 2.5" hard drive, turn the DVR over carefully. Hold the hard drive in place and remove the 4 screws securing the hard drive. Keep holding the hard drive and turn the DVR back over. Remove the hard drive from the DVR.



Remove the hard drive screws

Make sure to hold the hard drive in place while removing the hard drive screws and turning the DVR to avoid damaging the DVR.

5 Replace the DVR cover.

Installing the Hard Drive

The steps to install a hard drive differ depending if you have an 8-channel or 16-channel DVR.

8-Channel

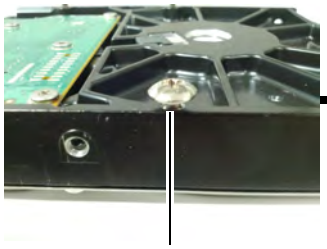
> ⚠ Make sure that the power cable has been disconnected before changing the hard drive.

1 Remove the screw from each side panel and rear panel (x3) of the cover.

2 Gently slide the cover away from the rear panel and lift off. Be careful of sharp edges.

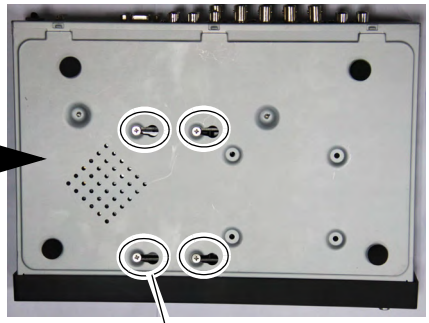
3 Next, install the hard drive:

- If installing a 3.5" hard drive, insert 4 hard drive screws into the bottom of the hard drive and tighten them 1/2 of the way. Place the hard drive in the screw slots with the power and data connectors facing left (if looking at the DVR from the front), and slide the hard drive into place. Tighten the hard drive screws to secure the hard drive in place.



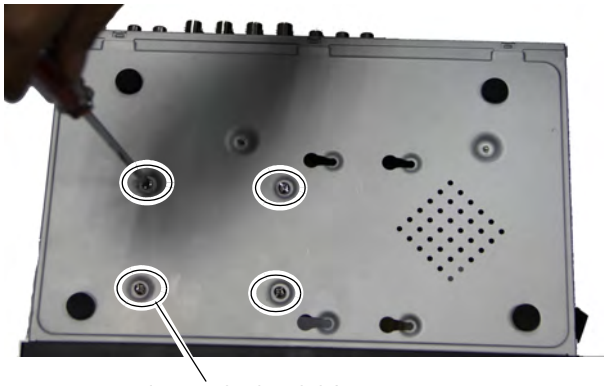
Insert hard drive screws 1/2 way

Place the hard drive in the screw slots and slide it into place



Tighten the hard drive screws

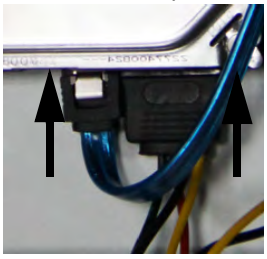
- If installing a 2.5" hard drive, place the hard drive over the screw holes. Hold the hard drive in place and turn the DVR over carefully. Insert 4 screws to secure the hard drive. Turn the DVR back over.



Insert the hard drive screws

> ⚠ Make sure to hold the hard drive in place while inserting the hard drive screws and turning the DVR to avoid damaging the DVR.

4 Connect the power and data cables.



5 Replace the side and cover panel screws.

16-Channel

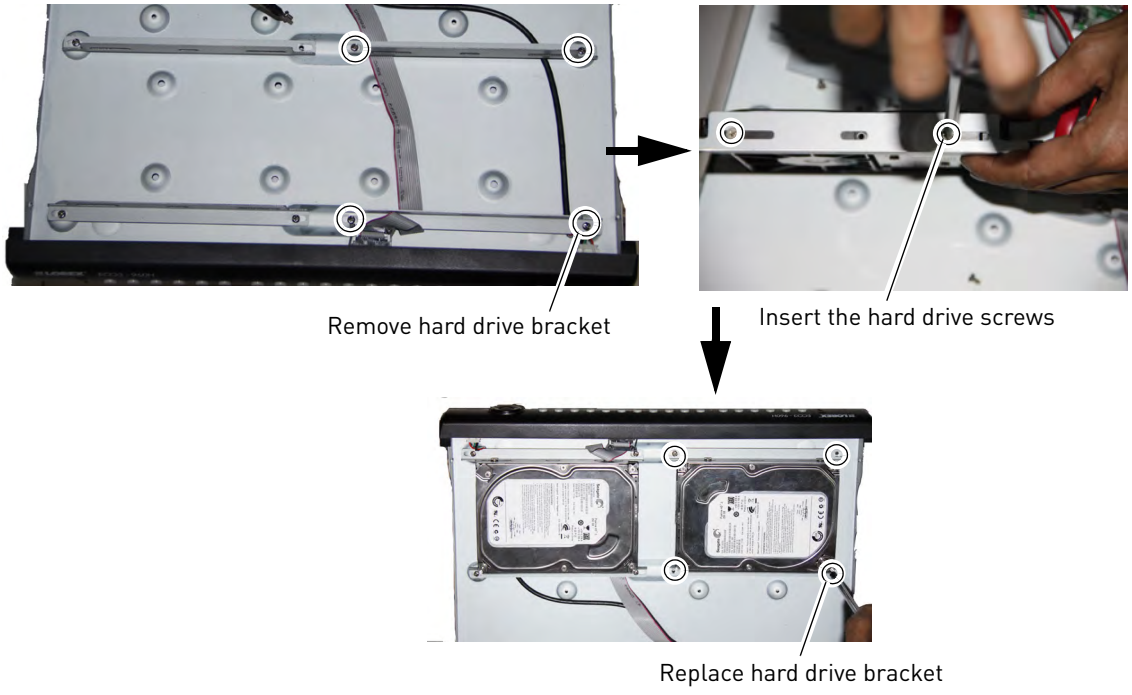
> Make sure that the power cable has been disconnected before changing the hard drive.

1 Remove the screws from each side panel (x2) and rear panel (x4) of the cover.

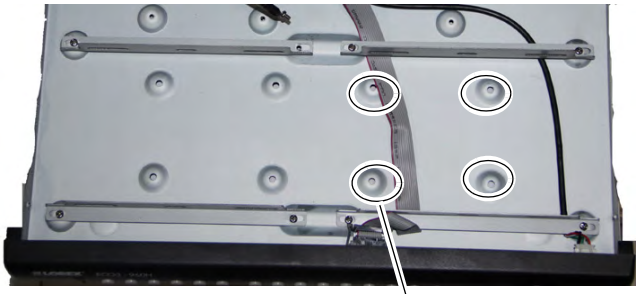
2 Gently slide the cover away from the rear panel and lift off. Be careful of sharp edges.

3 Next, install the hard drive:

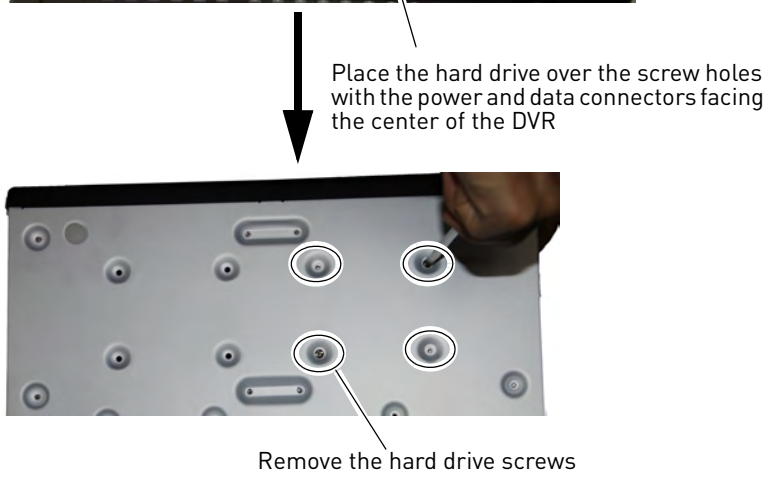
- If installing a 3.5" hard drive, remove the 4 screws holding the hard drive bracket and remove the bracket from the DVR. Place the hard drive in the bracket and insert 4 screws to secure the hard drive to the bracket. Place the hard drive and bracket back in the DVR with the power and data connectors facing the middle and replace the hard drive bracket screws.



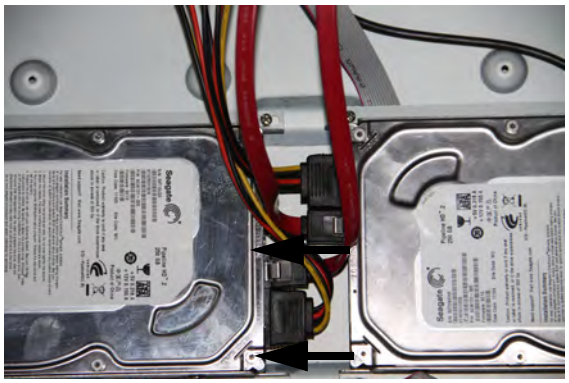
- If installing a 2.5" hard drive, place the hard drive over one of the two sets of screw holes with the power and data connectors facing the center of the DVR. Hold the hard drive in place and carefully turn the DVR over. Insert 4 hard drive screws to secure the hard drive. Turn the DVR back over.



Make sure to hold the hard drive in place while removing the hard drive screws and turning the DVR to avoid damaging the DVR.



4 Connect the power and data cables.



5 Replace the DVR cover.

Formatting the Hard Drive

If you replace the pre-installed hard drive, it *must* be formatted in order to function properly with the system.

> **ATTENTION**: Formatting the HDD erases **all data** on the hard disk.
> **This step cannot be undone.**

To format the hard disk:

1. Right-click to open the Menu Bar and click the Main Menu button ( ).
2. Click **Device**.
3. Click the checkbox under **Select** to choose the drive you wish to reformat.

4. Click **Format HDD**.
5. When the warning window appears, click **OK**. Wait for the system to format the hard drive.

NOTE: You will notice that the size of the HDD and the free space are not the same. The system uses a portion of the disk space for the operating system and initialization. This is common in all security DVRs as well as computer hard drives.

Troubleshooting

When a malfunction occurs, it may not be serious and can be corrected easily. The following describes the most common problems and solutions. Please refer to the following before calling Lorex Technical Support:

Error	Possible Causes	Solutions
• System is not receiving power, or is not powering up	• Cable from power adapter is loose or is unplugged	• Confirm that all cables are connected correctly • Confirm that the power adapter is securely connected to the back of the unit
	• Power switch is set to OFF (•) position	• Confirm that the power switch is in the ON (I) position.

	• Cables are connected, but system is not receiving sufficient power	• Confirm that the system is powered on (LED indicators on the front should be ON)
		• If the unit is connected through a power bar or surge protector, try bypassing the bar and connecting the power directly to the wall outlet
		• Confirm that there is power at the outlet:
		  • Connect the power cable to another outlet
		  • Test the outlet with another device (such as a lamp or phone charger)

• Remote control is not detected by the system	• Battery in the remote control is drained	• Install two fresh AAA alkaline batteries in the remote control
	• There are no batteries in the remote control	
• Hard drive is not detected by the system	• Hard drive cables are loose or not properly connected	• Remove the housing and check that hard drive cables are firmly connected
	• There is no hard drive in the system	• Open the housing and install a 2.5" or 3.5" SATA hard drive. Make sure to format the drive after installing. For details, see "Configuring Hard Drive settings" on page 50.
• Hard drive is full (0%) and the unit is no longer recording	• Overwrite is not enabled	• From the Main Menu, select DEVICE>HDD. Select Auto under Overwrite and click Apply.

Troubleshooting (Continued)

Error	Possible Causes	Solutions
• There is no picture on monitor/TV after connecting it to the DVR	• Monitor/TV not detected by DVR	• Power off the monitor/TV and DVR. Power on the monitor/TV, and then power on the DVR
	• Input channel for DVR not selected on monitor/TV	• On the monitor/TV, select the input channel the DVR is connected to
	• Video cable is loose or has become disconnected	• Check the video cable connection to the DVR and monitor/TV
	• Video-out resolution has been set to the incorrect setting	• Press and hold the ■ button on the front panel of the DVR until the DVR restarts. The DVR will reset to the default resolution (1024x768)
• Mouse not detected by system	• Mouse cable is not firmly connected to the system	• Firmly connect the mouse cable to one of the USB ports
	• Mouse is not connected to the system	
	• System needs to be reset	• Power off the system (disconnect power cable). Firmly connect a USB mouse to one of the USB ports. Reconnect the power cable to the DC 12V port on the rear panel.
• There is no picture on selected channels / camera picture is not being displayed	• Camera cables are loose or have become disconnected	• Check the camera video cable and connections • Disconnect and reconnect the cable at the system and at the camera • Try moving the camera to another channel or use another cable
• The image on the DVR appears, but does not have sound	• Audio cables are loose or have been disconnected	• Check the AUDIO Input connections to the DVR
	• Volume on external speakers (not included) is low or off	• Increase volume on external speakers (not included)
• The system beeps at startup		• The beep at startup is normal
• The system beeps during motion detection	• Motion detection is enabled and the alarm buzzer is activated	• Open the Main Menu and click System→Motion. In the Buzzer drop-down, select Off. Click Apply
• I am not receiving email notifications	• Email notification is disabled	• Ensure you have configured email notification. For details, see “Setting up Email Notification” on page 47
	• Default setting is disabled, but you have not entered your own SMTP information	• If you want to use your own SMTP server, deselect the Default box, and enter your SMTP Server address, Port, User name, and Password in the respective fields

Troubleshooting Remote Connections

Error	Possible Causes	Solutions
• Cannot connect to the DVR on a local network	• DVR not connected to router	• Connect an Ethernet cable from the DVR LAN port to your router, and then reset the DVR using the power switch
	• DVR and computer not on same network	• Ensure your DVR and computer are connected to the same router • If your computer is using a WiFi network, try connecting it to the router using an Ethernet cable
• Cannot connect to the DVR over the Internet	• Ports not forwarded	• Port Forward the HTTP port (default: 80), Client Port (default: 9000), and Mobile Port (default: 1025) on your router. For details on port forwarding, see the Easy Connect manual on the CD or the reference guides on www.lorextechnology.com
	• DDNS account not created	• Follow the instructions under "Step 2 of 4: Create a DDNS Account" on page 61
	• DDNS not enabled on DVR	• Follow the instructions under "Step 3 of 4: Enable DDNS on the DVR" on page 65
	• DDNS address not entered correctly	• In Internet Explorer or Safari, enter http://, the DDNS domain name from the confirmation email in full, and then colon and HTTP port (for example, *http://tomsmith.lorexddns.net:80*)
• Cannot connect to the DVR using a mobile device	• DVR has not been configured for Internet connection	• Ensure you have followed all the steps in "Setting up your DVR for Remote Connectivity" on page 56. See above to troubleshoot remote connections
	• Mobile Port has not been forwarded	• Forward the Mobile Port (default: 1025) on your router. For details on port forwarding, see the Easy Connect manual on the CD or the reference guides on www.lorextechnology.com
	• IP address used from outside internal network	• Use the DDNS address to connect to the DVR using a mobile application
	• Router is blocking DDNS connection from internal network	• Turn off WiFi connection and attempt to connect using 3G or mobile network

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